City Exhibit 1.0

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Commonwealth Edison Company	**:**	
	:	**ICC Docket No. 07-0566**
Proposed General Increase in Rates.	**:**	

DIRECT TESTIMONY
OF

EDWARD C. BODMER

ON BEHALF OF THE CITY OF CHICAGO

FEBRUARY 11, 2008

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BEFORE THE ILLINOIS COMMERCE COMMISSION

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DIRECT TESTIMONY OF EDWARD C. BODMER

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Edward C. Bodmer. My business address is 5951 Oakwood Dr., Lisle, Illinois 60532.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the City of Chicago ("City"). In this testimony, I address Commonwealth Edison Company's ("ComEd") proposed rate design as it affects residential customers, especially residential customers who live in Chicago. I also address serious flaws in ComEd's embedded cost-of-service study and how such flaws render ComEd's cost study inappropriate for use in setting the City's street lighting rates.

In addition to this testimony, I am submitting a separate piece of testimony on behalf of an *ad hoc* coalition of consumers named Request Equitable Allocation of Costs Together ("REACT").[1] The City is one of the members of REACT.

[1] Other REACT members include: A. Finkl & Sons, Co.; Alsip Paper Condominium Association; Aux Sable, Inc.; Commerce Energy, Inc.; Flint Hills Resources, LLC;

The positions expressed in this testimony are the positions of the City of Chicago. The separate piece of testimony that I am submitting on behalf of REACT represents the positions of that coalition as a whole, and do not necessarily represent the positions of any particular member.

Q. Why are you presenting two separate pieces of testimony?

A. The City has a responsibility to protect the interests of its residents, generally low-use consumers -- which is the subject of this testimony. However, the City and certain of its sister agencies operate a number of facilities that have demands exceeding 10 MW. ComEd's proposed rate design would burden these customers with distribution rate increases in excess of 120%. The City joined REACT because it is concerned about the rate increases for its accounts with demands above 10 MW and other ratepayers in the City also with demands exceeding 10 MW. The testimony I am submitting on behalf of REACT concerns that issue.

Q. What is your present occupation?

A. I am an independent consultant. About half of my business consists of specializing in utility regulation and energy economic analysis and the other half is teaching professional development courses around the world.

Q. Please summarize your educational background and professional experience.

Integrys Energy Services, Inc.; PDV Midwest Refining LLC; United Airlines, Inc. and Wells Manufacturing, Inc.

A. I received a B.S. degree in Finance with highest honors from the University of Illinois in 1979 and an M.B.A. degree with honors from the University of Chicago in 1986.

My regulatory experience began with my employment on the Accounting and Finance Staff of the Illinois Commerce Commission ("Commission") and has encompassed numerous assignments on regulatory issues as a consultant. I have testified before this Commission and other commissions a number of times on cost of service and rate design issues. My recent work includes submission of an affidavit to FERC on the massive profits that Exelon has earned from assets that were financed by ratepayers as well as testimony before the Maine Public Service Commission on the sales forecasts of Central Maine Power Company. A list of my testimony experience is included in City Exhibit 1.1.

II. BACKGROUND FOR TESTIMONY AND RESIDENTIAL RATE DESIGN RECOMMENDATIONS

Q. Earlier you stated that the purpose of this piece of testimony is to address rate design issues as they affect residential customers in the City. Are there distinguishing characteristics of City of Chicago residential electricity consumers compared to other ratepayers that affect cost of service and rate design?

A. Yes. As the basis for the recommendations I include in this testimony, it is necessary to describe and understand the unique usage characteristics and the prices faced by people who live in Chicago. City ratepayers have usage

characteristics, cost of service attributes and other traits that are very different from those of residential ratepayers in other regions of ComEd's service territory.

Q. What are the attributes of City customers that distinguish them from non-City customers?

A. The attributes include: (1) the percentage of City residents who live in multi-unit housing; (2) the efficiency with which City residents use electricity; and (3) the density of housing in the City. In addition, ComEd includes in its customer charge recommendations costs that vary with usage and, therefore, should be recovered as part of the utility's usage charges. This last item affects all residential customers, but would have a much more significant impact on City customers because of ComEd's proposed customer charges for different residential rate subclasses. I discuss each of these issues in turn.

Q. The first characteristic you mentioned was the percentage of City residents who live in multi-family housing. How does that characteristic affect the cost of serving such customers?

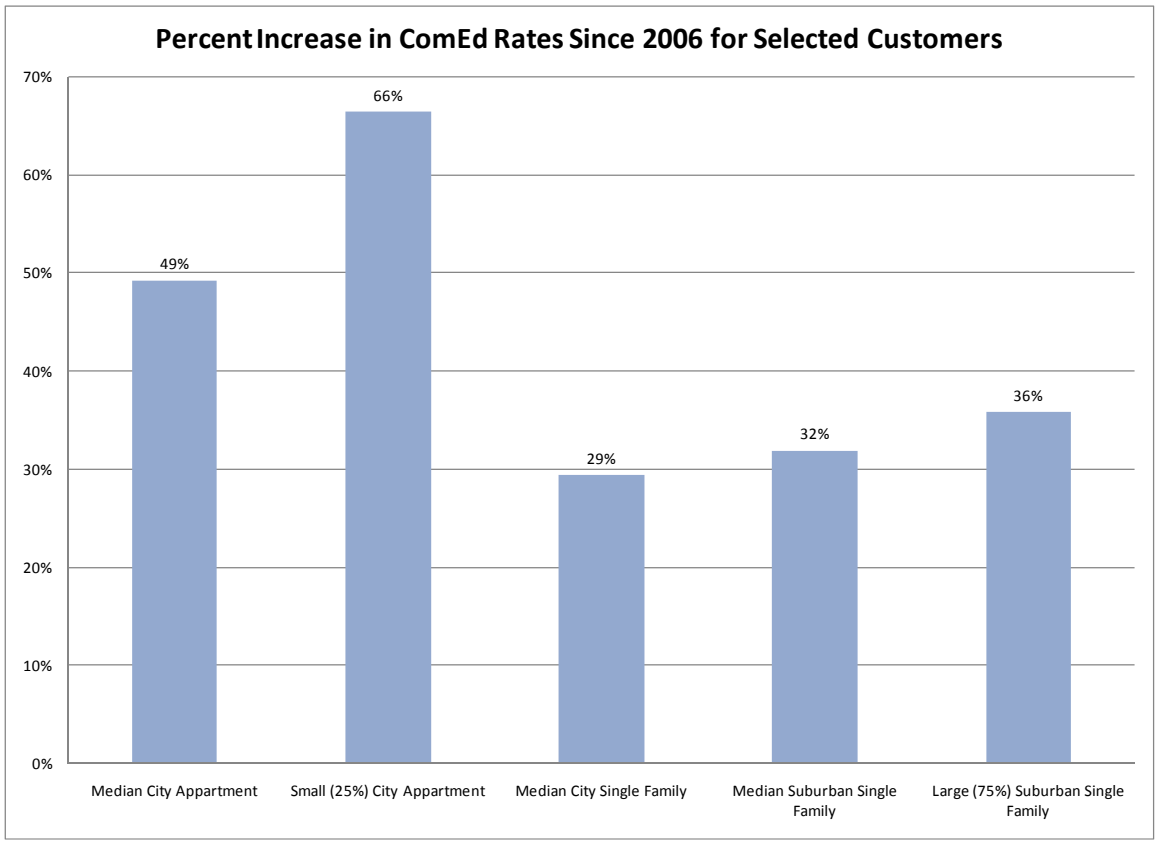
A. Before answering that question, it is important to know the substantial difference between the number of residents in the City living in such housing versus the number of non-City residents living in multi-family housing. For the non-space heat residential class, the percentage of multi-family ratepayers (apartments and duplexes) in the City is 56%, while the comparable percentage is only 19% for regions outside the City. Multi-family housing residents generally use less energy

than other residential customers. Multi-family housing typically is much more dense than single-family housing. These and other factors unequivocally and significantly affect the cost of serving City residents and suburban ratepayers.

The large fraction of multi-family housing units in the City makes it essential as a policy matter that ComEd's multi-family rate class is served under tariffs that are fair and equitable relative to ComEd's rates for businesses and other residential customers.

Q. What is the impact of ComEd's proposed rate increase and rate design on multi-family versus single-family customers?

A. If ComEd's proposed rate design is approved, multi-family rates for a typical apartment consumer in the City (including the generation and transmission components) would jump by 49% above rates in effect at the end of the rate freeze on December 31, 2006, just a little more than a year ago. At the same time, rates for the 25% of consumers residing in apartments in the City with the lowest usage (and, quite often, lowest income) -- about 140,000 ratepayers -- would increase by more than 66%. By comparison, over that same period, overall rates will have increased by 32% for a typical suburban single family ratepayer. Further, the average price paid for each kWh of electricity consumed by the smallest of ratepayers will be far higher than the rate for large consumers. Rate increases and the average overall rate per kilowatt-hour for selected residential consumer profiles are displayed in the two graphs below.


Percent Increase in ComEd Rates Since 2006 for Selected Customers
70%
60%
50%
40%
30%
20%
10%
0%
49%
66%
29%
32%
36%
Median City Appartment
Small (25%) City Appartment
Median City Single Family
Median Suburban Single Family
Large (75%) Suburban Single Family

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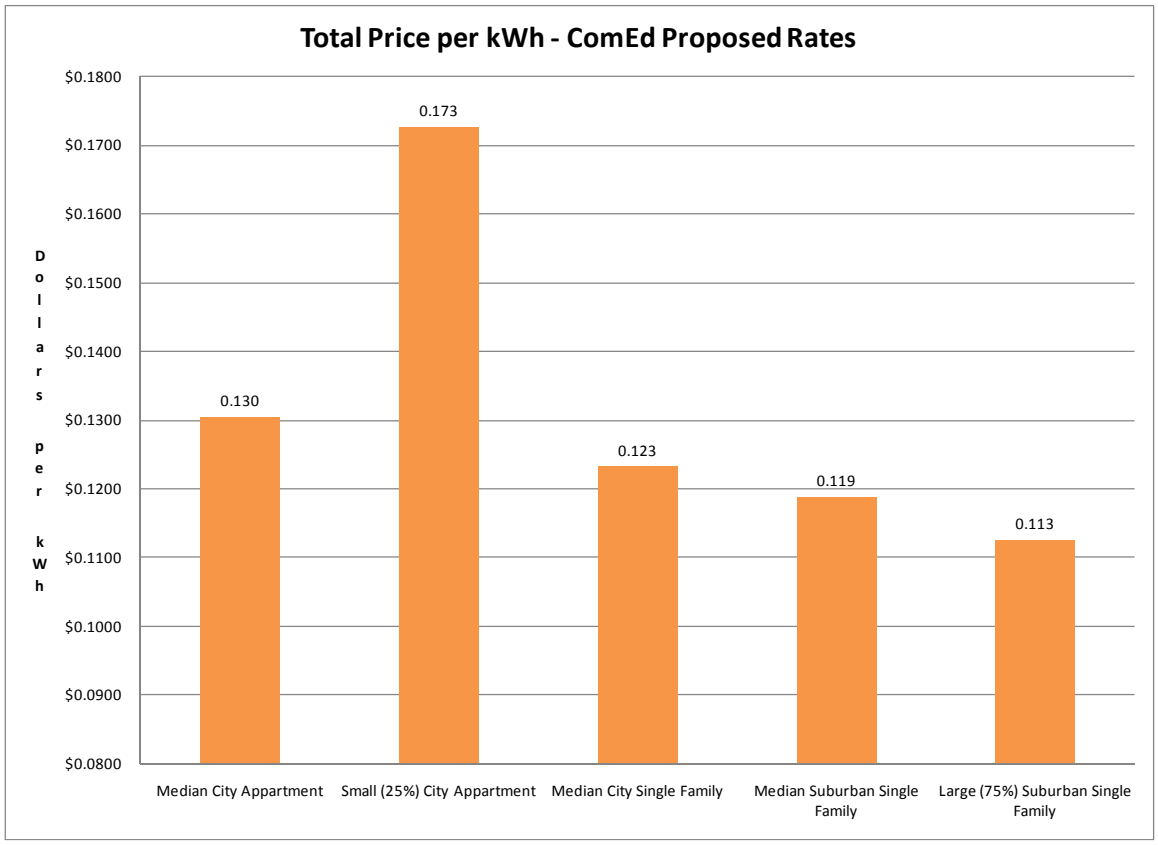
Total Price per kWh - ComEd Proposed Rates
Dollars per kWh
$0.1800
$0.1700
$0.1600
$0.1500
$0.1400
$0.1300
$0.1200
$0.1100
$0.1000
$0.0900
$0.0800
0.130
0.173
0.123
0.119
0.113
Median City Appartment
Small (25%) City Appartment
Median City Single Family
Median Suburban Single Family
Large (75%) Suburban Single Family

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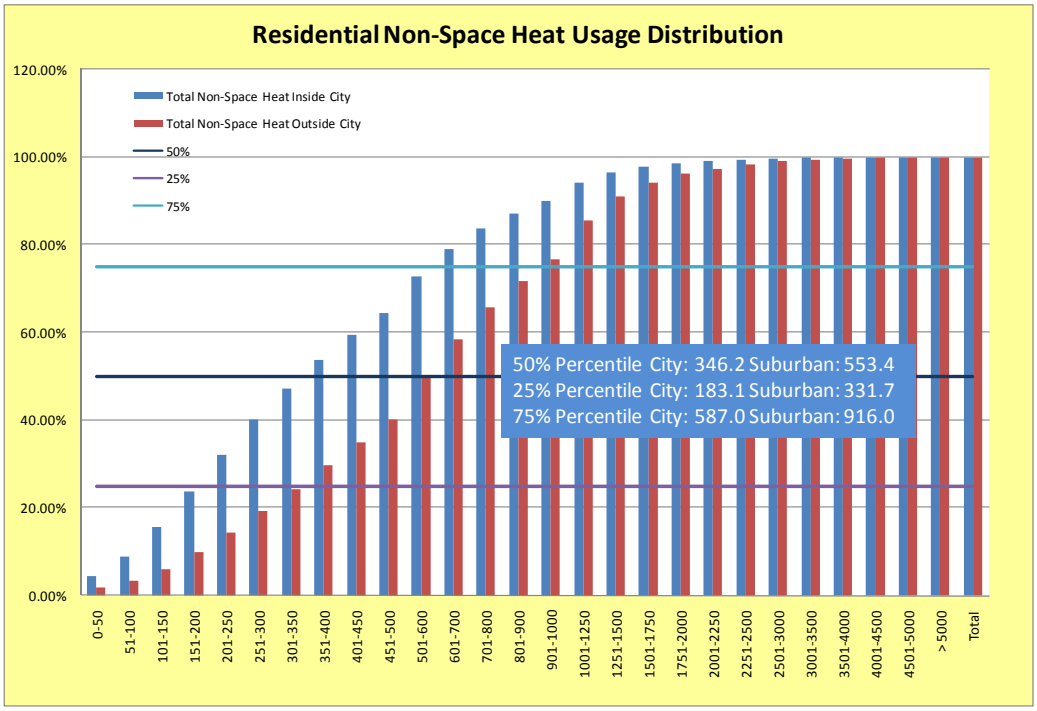
Q. The second factor you mentioned that differentiates City customers from non-City customers is that City customers use energy more efficiently. Please describe the difference in electricity use and how such use affects customer rates.

A. As I stated above, on average, residential ratepayers in the City use far less electricity than ratepayers in other regions of the ComEd service territory. In 2006, the median non-space use per resident per month was 346 kWh per month inside the City. By contrast, the median suburban consumer used 553 kWh per month – 60% above the City level.

A graph demonstrating the percentages of customers who use energy in different increments for the City and outside-City region of ComEd is shown below.

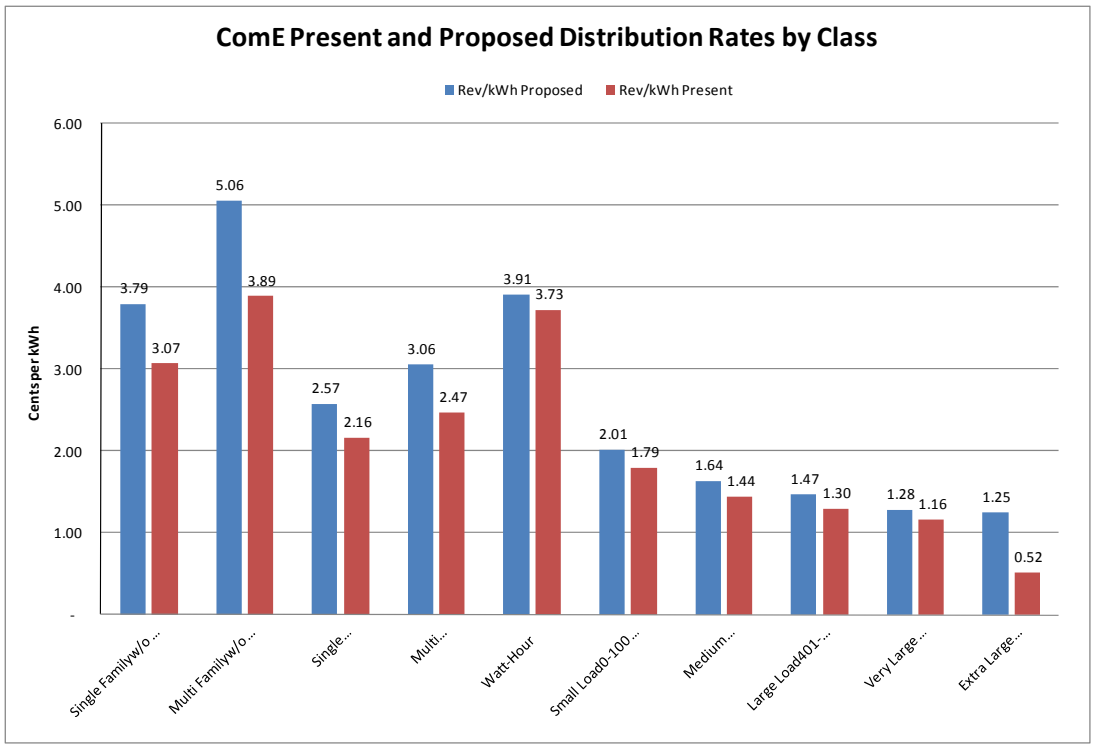


Q. How does City residents' more efficient energy use affect their rates?

A. The efficient manner in which City residential ratepayers use electricity means that the customer charge makes up a far greater percentage of bills for City ratepayers than for suburban ratepayers. If ComEd's requested rate increase is approved, multi-family customer charges will have increased from $2.94 per month before the end of the rate freeze to $9.95 per month. Because the customer charge does not vary with usage, the high customer charge advocated by ComEd favors ratepayers who use more electricity -- and perhaps use it more carelessly -- and penalizes low-use consumers, who are more likely to be low-income customers.

That there is a positive correlation between electricity usage and household income is widely recognized by those who have seriously studied the subject.[2] Given the positive relationship between income and electricity use, tariff components that result in higher revenue per kWh prices for low-use, low-income consumers than for high-use consumers constitute a regressive rate structure. The regressiveness of ComEd's rate structure is demonstrated by the graph below, which shows distribution prices per kilowatt-hour by ratepayer class. Note that on this graph, the highest bar -- by a wide margin -- is the rate per kWh for non-space heat multi-family consumers.

[2] David Poyer of Argonne National Laboratory who worked with the Residential Electric Consumption Survey called electricity the "rich man's fuel."



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146 **Q. How do ComEd's proposed customer charges compare to customer charges**

147 **imposed by other utilities?**

148 A. A comparison of ComEd's proposed customer charges with customer charges

149 imposed by other utilities highlights the regressiveness of ComEd's proposed rate

150 structure. In ComEd's 2001 delivery services tariff rate case (Docket 01-0423),

151 ComEd proudly contrasted its distribution rates to those of other companies with

152 unbundled rates. Using the sample of other companies that ComEd deemed

153 appropriate in its 2001 case, one can see that the company's proposed rate design

154 is more regressive than those in place in other states. The table below

demonstrates that only other Illinois utilities' customer charges come anywhere close to ComEd's proposed customer charges.[3]

Customer Charges and Minimum Bills for Comparison Companies in 2001 Case ($/Ratepayer/Month)

Company	Customer Charge	Minimum Bill
ComEd - Proposed Single-Family	$ 10.31	
AmerenCIPS - Illinois Company	$ 9.37	
ComEd - Proposed Multi-Family	$ 9.36	
ComEd - Present Single-Family	$ 8.80	
ComEd - Present Multi-Family	$ 7.05	
NSTAR	$ 6.43	
PECO - ComEd Sister Company	$ 5.18	
Reliant	$ 5.12	
First Energy (CEI)	$ 4.75	
PSE&G	$ 2.43	
Southern Cal. Edison	$ 0.67	$ 1.34
SDG&E	$ -	$ 5.17
PG&E	$ -	$ 4.50
Detroit Edison	$ -	$ 2.57
Average without Min Bill Companies	$ 4.10	
Average with Min Bill Companies	$ 2.73	
ComEd SF/Average w/o Min	2.52	
ComEd MF/Average w/o Min	2.28	

ComEd's proposed rate design punishes those who use energy more efficiently. Given the ongoing international and national discussions about the need to reduce energy usage, ComEd's rate design should reward -- not penalize -- such behavior.

Indeed, efficient use of energy is consistent with legislation enacted by the General Assembly in 2007. The new legislation, in part, requires ComEd, the Ameren utilities and the Illinois Department of Commerce and Economic

[3] A minimum bill is equivalent to a zero customer charge as long as consumers use enough electricity to pay the minimum bill.

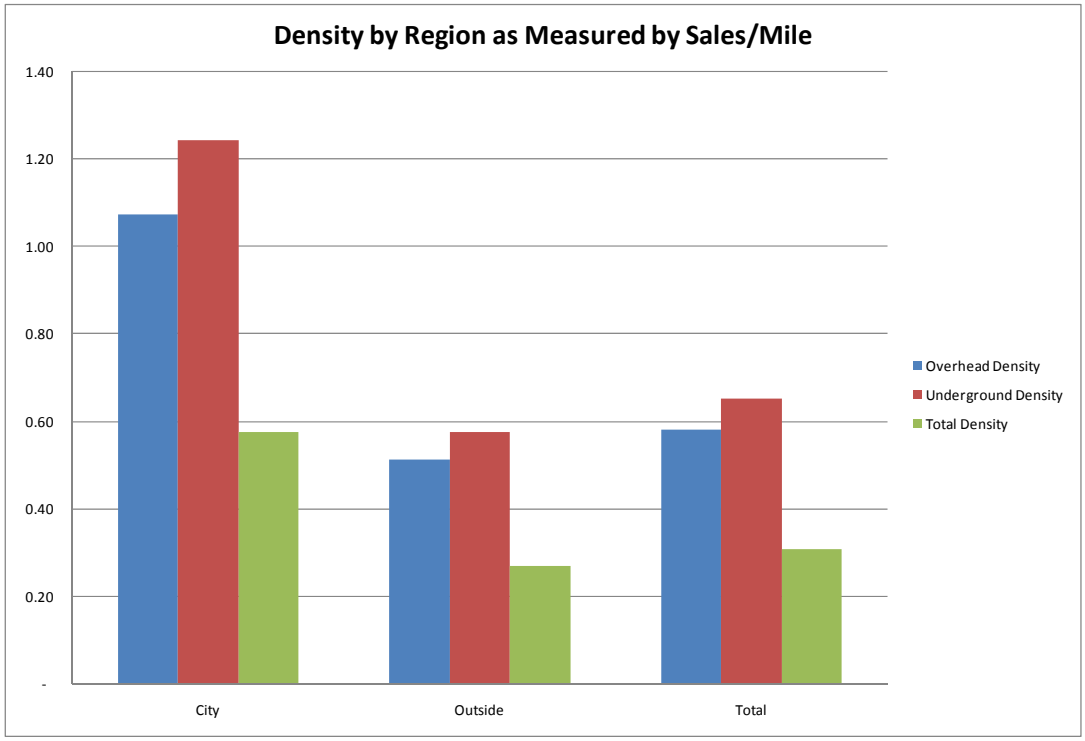
Opportunity to implement energy-efficiency and demand-response programs designed to reduce electricity usage. In passing the legislation, the General Assembly found that promoting investment in energy-efficiency and demand-response programs is necessary to protect the economic well-being, health and safety of Illinois residents. Pub. Act 95-0481 § 1-5(4) (2007). The General Assembly also stated that it is the policy of the State of Illinois that "investment in cost-effective energy efficiency and demand-response measures will reduce direct and indirect costs to consumers by decreasing environmental impacts and by avoiding or delaying the need for new generation, transmission, and distribution infrastructure." 220 ILCS 5/12-103(a).

ComEd's proposed rate design in this case penalizes those customers who currently use electricity more wisely than others. At a minimum, this seems contrary to the goals and findings the General Assembly included in Public Act 95-0481.

Q. The third factor you identified that distinguishes City ratepayers from non-City ratepayers is population density. Does population density affect the cost of serving residential customers?

A. Yes. Not surprisingly, population density in the City of Chicago is higher than in other parts of ComEd's territory. To be relevant to the electric distribution utility industry, density can be measured by the amount of energy sales divided by the number of miles of distribution lines or the number of transformers or the number

of distribution poles instead of the traditional definition of population per square mile. On this basis, the density inside the City is about 2.6 times the density of outside the City areas.[4] One does not have to be a utility employee who has worked at ComEd for decades to understand that if the utility has to install more wire because of longer distances between customers, the more it costs the utility to serve such customers. Yet, as I explain below, ComEd's embedded cost study completely ignores density characteristics. The graph below compares various density statistics for the City and non-City regions in ComEd's territory.



[4] Since ComEd failed to provide recent data, we have been forced to use data provided by the utility in an earlier case and extrapolate to the present.

Q. How does the relative density of City and non-City customers affect ComEd's cost-of-service?

A. ComEd's cost-of-service is affected by the facilities and equipment needed to serve customers who live relatively close together versus the facilities and equipment needed to serve those who live further apart. ComEd's cost-of-service is also affected by the timing of investments made to install facilities and equipment. For example:

◊ The relative amount of underground wire is lower inside the City than outside the City. The cost per mile of underground equipment is higher than the cost per mile of overhead equipment. For those of us who drive around looking at distribution lines, it is apparent that the quantity of overhead lines in the City of Chicago and older suburbs is far greater than the overhead lines in newer suburban communities.[5] Out of all residential consumers in the City, a mere 17% are served from underground wire. Outside the City, the underground percentage is 50%. From a cost perspective, this disparity is important because the cost of underground equipment is almost two times the cost of overhead equipment, as shown on the table below (derived from numbers in ComEd's testimony).

Plant Cost of Overhead and Underground			
	Net Cost	**Lines**	**Cost per Line**
Overhead	1,391,570,395	43,900	31,698.64
Underground	2,202,278,583	38,992	56,479.62
Underground Capital Cost/Overhead Cost			1.78

[5] Given all of the technical jargon presented by ComEd, more valuable information can be gained from simply looking a distribution lines. I began looking at distribution poles after friends from Europe, when visiting Chicago, took a photograph of an overhead distribution line with a transformer because they had never seen one.

◊ The costs ComEd has incurred as a result of suburban sprawl into far collar counties has been much higher than the average cost of the utility's existing equipment, and the increases have been much more than the overall rate of inflation. Indeed, ComEd states repeatedly that the primary driver of its requested $361 million rate increase is due to explosive growth in the "collar and "far collar counties." *See*, *e.g.*, ComEd Ex. 1.0 at 3, L. 52-59; ComEd Ex. 4.0 at 12-13, L. 230-50. Apparently, ComEd would like ratepayers in older and lower-income regions of its service territory to pay higher rates because people have decided to move to remote, sprawling suburbs. This effect raises a significant policy issue because (1) ComEd asserts that the cost for new equipment has increased dramatically, and (2) the distribution investments ComEd has been required are focused in particular geographical regions. While ComEd would not provide specific data on regional spending, I have gathered data from ComEd's 2004 cost of service study as well as other statistics presented in the direct testimony of ComEd's witness George A. Williams to compute the cost per unit of distribution lines and transformers. The tables below summarize this analysis and show that the cost of distribution lines in rate base has increased from $34,000 per mile to $47,000 per mile because of the $93,000 cost per mile of new (2005-2006) lines. The Commission cannot ignore the policy question of whether consumers in older areas should pay the higher $47,000 per mile (versus $34,000 per mile) cost because of choices made by other ratepayers to move.

The cost of new line transformers has increased even more than the cost of distribution lines as shown in the next table. While the cost of new lines is 2.7 times the cost of lines that were in rate base in 2004, the cost of new transformers per transformer is 3.23 times the cost of transformers that were in rate base in 2004.

Q. The fourth issue you mentioned is costs ComEd inappropriately includes in its proposed customer charges for residential customers. How does this affect residential customers' rates?

A. ComEd assumes that many costs -- including customer installation costs, customer information costs, and data management costs -- would exist even if consumers used no electricity. Nevertheless, such costs exceed the cost of reading a meter, sending and processing a bill -- costs that are genuinely customer-related and independent of usage -- by a wide margin. For example,

ComEd asserts that it must spend more than $40 per customer per year to manage and compile customer data, and that these data management costs are entirely independent of usage.

Furthermore, billing and other non-metering costs include many costs incurred for the transition to deregulation. Nevertheless, deregulation has not altered the services received by City residential consumers: they still have the same meter, a ComEd employee still reads the meter, and they still receive a bill that multiplies kWh of energy by a simple set of ComEd tariffs. For the class of multi-family non-space-heat ratepayers in particular -- the class that is the City's primary concern -- costs that ComEd asserts do not vary with usage exceed 48% of total costs for that class. ComEd's fixed cost breakdown is shown on the table below.

	Multi Family No Space Heat Cost of Service	Percent of Total Multi-family
Cost of Meter and Reading	$ 29,292,394	13.5%
Cost of Processing a Bill	6,827,780	3.1%
Subtotal - Reasonable Customer Costs	36,120,174	16.6%
Cost of Customer Installation	15,616,389	7.2%
Cost of Customer Information	2,476,501	1.1%
Cost of Data Management	42,202,360	19.4%
Cost of Service Lines	6,459,865	3.0%
Cost of Uncollectible Accounts	2,056,825	0.9%
Subtotal - Other Customer Costs	68,811,941	31.6%
Total Costs that would occur with zero usage	104,932,115	48.2%
Total Cost of Service	217,707,737	

III. OVERVIEW OF RECOMMENDATIONS

Q. How do you recommend that ComEd's cost allocation and rate design proposals be modified?

A. The following list summarizes my principal recommendations:

◊ ***Imposition of regional differentiated rates to cover increased costs caused by the very expensive equipment that ComEd has installed to meet suburban sprawl.*** A reasonable way to compensate ComEd for the very high costs it has incurred for people moving into collar and far collar counties is to apply a regional surcharge for each county as a function of expenditures ComEd has made since 2004 (*i.e.*, a percentage increase in various counties such as Will, McHenry and Kendall Counties.) Another alternative would to establish the same type of regional surcharge, but for larger regions, such as, for example, Cook County, collar counties and far collar counties. The regionally differentiated rates should be computed through first removing the added revenue requirements associated with ratepayer migration that have caused ComEd to add equipment and facilities to serve newly constructed homes and businesses from the overall revenue requirement in this case. Then, the aggregate amount of revenue requirements associated with these ratepayer migrations would be attributed to all consumers located in particular regions through a surcharge on the distribution component of rates.

◊ ***ComEd's cost-of-service study for the residential class should be modified to more accurately reflects cost of service by taking into account density, overhead and undergrounding and age of equipment characteristics.*** I have improved ComEd's cost-of-service study by explicitly accounting for density characteristics and the cost per mile of underground and overhead equipment by correlating customer groups with regional characteristics. ComEd's study completely ignores such important cost characteristics. Incorporating differential density, undergrounding and cost characteristics changes cost measurement for the multi-family and single-family classes as shown in the table below. The table shows that overall multi-family costs decline by 14% while single family costs increase by 4%.

Summary of Cost of Service - Residential Non-Space Heat

	Single-Family No Space Heat	Multi-Family No Space Heat	Total
Total Cost of Service with Adjustments for Line Density and Cost			
Distribution Cost of Service	562,070,521	82,545,574	644,616,095
Customer Cost of Service	280,379,220	104,200,454	384,579,674
Total	842,449,740	186,746,029	1,029,195,769
Percent Difference in Cost of Service Accounting for Line Density and Cost versus ComEd			
Distribution Cost of Service	106%	73%	100%
Customer Cost of Service	100%	100%	100%
Total	104%	86%	100%

◊ ***Allocation of fewer costs on the basis of the number of customers in the cost of service study.*** Rather than simply attributing costs that are not obviously associated with demand to the number of customers, ComEd's cost study must recognize that costs such as customer installation, customer information, services and data management are directly or

indirectly proportional to the size of the ratepayer. An appropriate study would recognize that these costs would not exist or that they would be much lower if ratepayer usage were nil. Instead of applying ComEd's default assumptions about such costs, which sweeps costs that do vary based on usage into the customer charge category, some costs such as customer installation and customer information costs should be attributed to all ratepayer classes. Uncollectible expenses should be allocated on an equal basis across residential customers rather than classified as customer costs. As to the cost of data management, the cost should be analyzed more carefully by removing the cost of business functions and computer systems that facilitate deregulation from the residential class. Furthermore, a portion of data management costs should be allocated within the residential class on the basis of customer size rather than the number of customers, and other costs should be attributed to non-residential ratepayers. The table below illustrates the effect on total embedded costs in the non-space heat residential class of correcting the allocation of customer costs I propose without any other adjustments. Costs are reduced by 16% for multi-family ratepayers and by 4% for single-family consumers. The costs that should be removed from the customer category have nothing to do with preparing bills or reading meters for residential ratepayers and it is especially inequitable to impose such charges on low-use consumers.

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345 ◊ ***Reconsideration of alternative methods for distribution cost allocation,***
346 ***including use of the Average and Peak allocation method.*** When
347 allocating costs, ComEd assumes that all of its investment and operating
348 decisions would be precisely the same if it had built its system to
349 distribute electricity for only one hour of the year rather than throughout
350 the year. Contrary to ComEd's assertions that cost-of-service formulas are
351 tantamount to the immutable physical laws of nature, there is in fact no
352 perfect allocation method. Moreover, asserting, as ComEd has in past rate
353 cases and in response to data requests in this case, that subsidies arise
354 when class revenue recovery does not precisely match ComEd's class cost
355 allocations is simplistic. Rather than slavishly apply ComEd's allocator,
356 which is based on the fiction that ComEd incurs costs solely to serve peak
357 demand, the Commission should adopt the average and peak ("A&P")
358 allocation method. This approach takes into consideration both peak
359 demand and energy usage (average demand). The effects of using the
360 A&P method to allocate distribution costs in addition to the other
361 adjustments I recommend are illustrated in the two charts below

362 comparing total cost of service on a class-by-class basis with the cost of
363 service for each class determined using ComEd's assumptions. The first
364 chart shows the effect without any of the other adjustments I propose
365 while the second chart incorporates all of the cost-of-service revisions.
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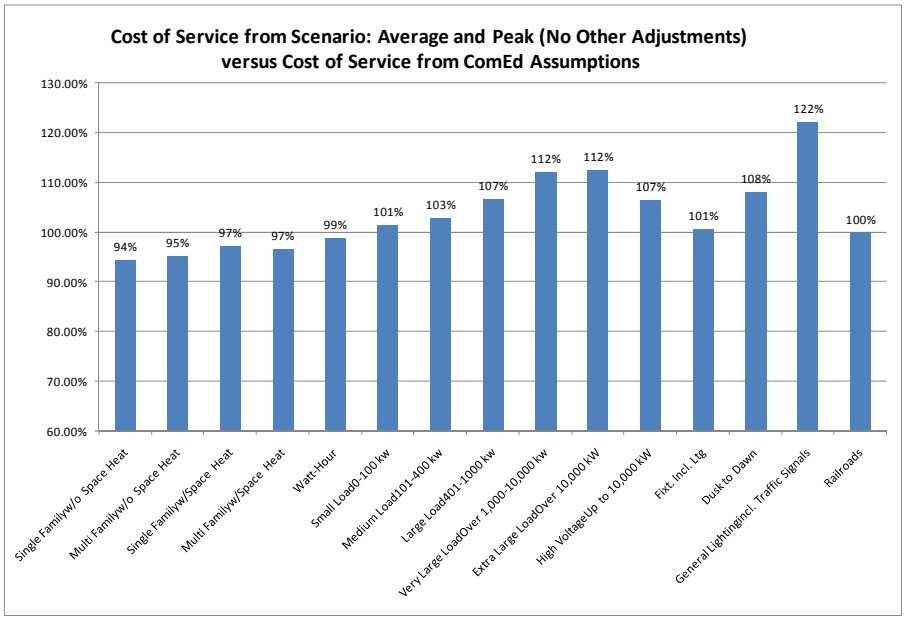

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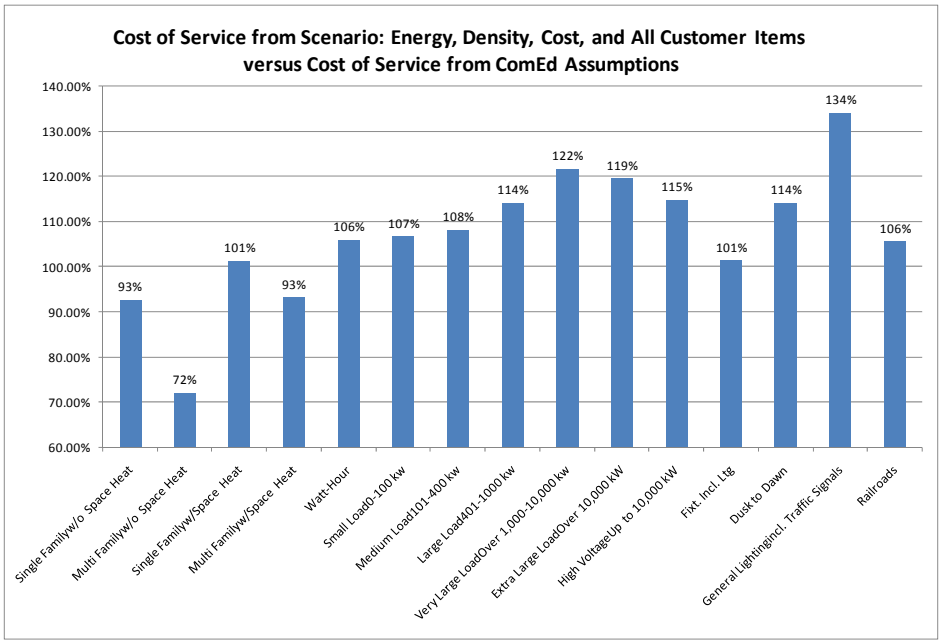

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◊ ***A rate design with lower customer charges and higher facilities charges should be implemented for the residential class.*** In the residential class, usage and cost are positively correlated. Specifically, low-use residential ratepayers tend to require less undergrounding of equipment and live in higher density areas, such that their cost of service is lower than that of higher-use residential ratepayers. Thus, in establishing residential tariff components, it is not necessarily appropriate to equate the customer charge with customer costs and to divide distribution costs by energy sales, as ComEd does. Therefore, even if my recommended customer cost adjustments are not accepted, the customer charge for residential ratepayers should be lowered and the distribution facility charge increased so that low-use as well as higher-use residential customers' bills are consistent with their respective costs of service. The tables below show results of my analysis on rate design with and without use of the A&P method for allocating distribution costs.

◊ ***ComEd's cost-of-service study does not reflect the utility's cost to serve the City's street lighting load and, consequently, cannot be used to set rates for the City's street lighting account.*** ComEd's embedded cost-of-service study makes certain assumptions about the City's street lighting account that do not accurately reflect the costs ComEd incurs to serve that load. For example, ComEd's cost study assumes that the utility owns the pole. As to the City, ComEd's assumption is wrong as the City owns street light poles. ComEd's study also assumes that the secondary wire that runs between City street lights is owned by ComEd. ComEd's assumption is wrong on this point too. ComEd's assumptions regarding the allocation of transformer costs and other items are also wrong with respect to the City's street lights. ComEd should be required to conduct an audit to determine the actual costs of serving the City's street lighting account.

IV. PRINCIPLES USED IN MY ANALYSIS

Q. What principles have you used to develop your recommendations?

A. My recommendation that the Commission impose regional surcharges, allocate costs based on density and other factors, remove deregulation costs from customer charges and particularize costs of service of very large the City's street light load may seem a little radical. However, considering that: (1) ComEd's embedded cost-of-service study is a great leap backwards from earlier studies that ComEd has advocated, and the Commission has adopted; (2) ComEd and the Commission

have pursued a policy that moves toward localizing costs for more than a decade (tracing of franchise fees, Rider 28 (now Rider LGC), *etc*.); and (3) ComEd's proposal has serious negative environmental implications, my recommendations are not at all extreme.

I have developed my recommendations by adhering to three fundamental principles: (1) ensuring that tariffs are tied to the actual cost of service; (2) making sure that ComEd's policy of imposing costs on a regional basis is applied on a consistent and uniform basis; and (3) adopting policies that encourage efficient use of energy and have the most positive environmental outcomes.

Q. Is ComEd's approach to cost of service and rate design in this case reasonable?

A. No. ComEd's case is grounded in the arguments that (a) its financial condition is dire because it has made more than a billion dollars in investments for new housing developments in collar and far collar counties, some located more than 50 miles away from Chicago; (b) its single shareholder, Exelon, will not put up with the utility's low cash flow (even though Illinois ratepayers have been essential in making Exelon the most financially successful company in the history of the utility industry); and (c) all costs should be allocated using a plain vanilla embedded cost-of-service study that does not account for customer characteristics other than load and the number of customers. In other words, ComEd has applied an inflexible, bureaucratic formula for collecting cost increases from ratepayers

without considering who actually caused the increases or the implications for individual ratepayers of the utility's proposed rate increases.

Although ComEd applies a traditional approach to allocating costs to ratepayers, the results of that approach defy common sense. From the perspective of a ratepayer living in an apartment in the city, it would make no sense whatsoever for her rates to go up to cover ComEd's costs of installing poles, underground wires and substations in remote places like Will County and Kendall County -- costs that have been incurred as worldwide prices of copper and other materials have skyrocketed due in large part to the economic expansion of China. It would be difficult to explain to such a customer why the portion of her bill that she cannot control by using less energy -- the customer charge -- will increase by 238% over the 2006 level because ComEd has had to pay high software, consulting, and legal costs as it has transitioned from regulated to deregulated rates.

Q. The first principle you identified as underlying your analysis is cost causation. Please explain what you mean by that.

A. Unlike ComEd's proposals, the City's recommendations are founded on the notion that distribution tariffs should reflect the cost of service. If customers live in areas where costs are lower because of density, the nature of facilities used to serve them (*e.g.*, overhead versus underground lines) and the timing of the facilities' construction, then such customers should have lower rates. Where

possible, my recommendations are based on ComEd data and reflect differences in the costs ComEd has incurred to construct and operate new facilities. My regionally differentiated cost adder is computed from ComEd data and directly conforms to ComEd's statements that its rates must increase because of costs incurred in far collar counties. The adjustments to multi-family tariffs are derived from adjusting residential cost of service to reflect density and actual cost of distribution lines and transformers as well as the fact that customer costs are not properly allocated.

Q. **The second principle you identified is consistent application of ComEd's regional tracing policy. Please explain what you mean by that.**

A. My recommendation to collect distribution costs through a county-by-county (or other regional) surcharge is consistent with ComEd's policy, adopted by the Commission, of tracing selected distribution costs, on a regional basis. ComEd first traced City Chicago franchisee fees and suburban free service to ratepayers in individual municipalities in 1994. Tracing continued when ComEd developed, and the Commission adopted, Rider 28, which localized recovery of incremental costs of undergrounding and other nonstandard services to ratepayers located in the municipalities requiring such services. Subsequently, ComEd assessed the costs of a proposed industrial development rider (Rider 19) based on locally differentiated distribution costs. In ComEd's last delivery services rate case (ICC Docket No. 05-0597), ComEd attempted to expand the costs subject to tracing through a new rider, Rider LGC, which replaced and would have expanded Rider

28. Also in its last rate case, ComEd urged the Commission, if it required the utility to continue providing Rider GCB, to trace the costs of providing that statutorily-mandated rate to the City and certain sister agencies to ratepayers in the City.[6] It would be utterly hypocritical and discriminatory for ComEd to recover from all ratepayers the high costs of serving new developments in far collar counties while tracing or advocating the tracing of selected costs incurred to serve City and other ratepayers.

Q. The third principle you identified as underlying your analysis is environmental considerations. Please explain what you mean by that.

A. ComEd's policy of subsidizing rates for people who move into large new suburban homes in far collar counties encourages continued sprawl and construction of homes with very large carbon footprints. People who live in these homes generally use a great deal of energy, drive long distances to and from work and other destinations and public transportation is practically non-existent, and to the extent available, goes virtually unused. By contrast, recovering the costs related to new construction in far collar counties to those who cause the costs would discourage sprawl and promote more responsible energy consumption -- and the associated environmental benefits. ComEd's policy of pushing costs into the customer charge and otherwise setting regressive rates also has negative environmental consequences: consumers are less likely to use electric energy efficiently.

[6] Historically, the City has objected to tracing of costs in the past because it was imposed on a selective basis without considering the whole cost picture (which the City has called "selective tracing").

V. GENERAL DESCRIPTION OF COMED'S COST-OF-SERVICE STUDY

Q. Please describe ComEd's cost-of-service study in the context of the regional boundaries of its service territory.

A. ComEd's cost-of-service study is a blunt instrument that allocates costs on a plain-vanilla basis without any consideration for density, underground versus overhead lines, transformers per customer, required substations per region or other essential cost differences. In its response to City of Chicago Data Request Number COC 1.12, ComEd admits as much.

ICC Docket No. 07-0566

Commonwealth Edison Company's Response to
City of Chicago's (COC) Data Requests 1.01-1.16
Dated: December 12, 2007

REQUEST NO. COC 1.12:

Please consider the following hypothetical example in which there are three groups of customers on a system. The first group consists of 100 rural customers, the second group consists of 100 suburban customers and the third group consists of 100 urban customers. Assume that each customer has the same demand, but that urban customers have higher density and require less distribution equipment than the other groups. Please confirm that ComEd's embedded cost of service study would not account for the different costs of the three customer groups. Please confirm that it would be possible to compute different costs for each group in an embedded cost of service study.

RESPONSE:

If there were actual average cost differences between the three groups in the hypothetical example, ComEd's embedded cost of service distribution study, as filed, would not account for the differences.

Hypothetically, it would be possible to calculate cost differences among the hypothetical groups of customers, depending on availability of the necessary data. It is also possible that such cost differences, while actual, were not significant enough in a rate-making context to justify establishing separate classes.

The primary reason ComEd's cost study is so inappropriate is the size and diversity of the company's service territory. For a company like Ameren CILCO, a crude cost of service study may be reasonable because the housing

characteristics are probably quite similar across the Peoria region. In contrast, as ComEd witness Williams noted, the size of ComEd's service territory is comparable to that of three Northeastern states. ComEd Ex. 4.0 at 5, L. 105-07. The population of ComEd's service territory -- 8 million -- is about the same as the country of Austria and is almost half the population of Chile. Most important, the service territory includes ratepayers with widely diverse energy usage and housing characteristics, ranging from mansions in Lake Forest to low-income apartments in the City. Given the dramatic differences in housing characteristics, population density, age of distribution facilities and other factors in ComEd's service territory, it is imperative that the company prepare a sophisticated and detailed cost study.

Q. Does ComEd's cost of service study reflect the regional diversity of its service area?

A. No. While the ComEd embedded cost-of-service study consists of 82 pages of numbers and acronyms that make your eyes glaze over when you read it, the study is in fact very imprecise. To illustrate the crudeness of ComEd's embedded cost of service study, consider how ComEd allocated a category of cost named "distribution lines." ComEd dumps all distribution poles, all types of overhead distribution lines except service drops and all underground distribution conduit into this single account, which sums to $7.4 billion of plant – more than half of ComEd's plant balance. In terms of distribution revenue requirements, this "distribution lines" account comprises $921.6 million out of a total $2.049 billion

-- 45% of the total cost of service. Then, for this massive cost item that contains primary and secondary above- and below-ground wire as well as poles, ComEd simply allocates all of the cost to customer classes using the estimated size of customer classes based on the non-coincident peak.[7] Since all costs of wire and poles are crammed into a single account, the allocation gives no consideration to the density characteristics of the customer class, the class's share of underground or overhead equipment and the timing of distribution facility construction. Similarly, in allocating substations and transformers, the company does not account for the density of substations per megawatt for each customer class, nor the number of transformers per megawatt for customer class.

Q. How could ComEd's cost of service study be improved?

A. A proper cost of service study would allocate costs on a regional basis and use regional coincident peak loads that are the actual basis for construction of facilities. The regions would distinguish the central business district in Chicago, other areas of Chicago, near suburbs, collar counties and far collar counties. For each region, the direct costs of serving large ratepayers would first be computed from the facilities in place to serve such customers. After removing the cost of serving large customers, the remaining regional costs would account for density and undergrounding associated with each customer class through surveys and other statistical approaches. Once the regional costs were computed, rates could

[7] For example, out of the total non-coincident peak of 23,460 MW for all classes, 34.82% is attributable to the single family non-space heat class and 7.48% is attributable to the multi-family non-space heat class.

then be set on a regional basis, or the regional cost by class could be accumulated and used to set aggregate tariffs.

Of course, this alternative cost of service study would still require the exercise of judgment with respect to allocation techniques. However, where judgments are made, they would not invariably favor business over residential consumers, large over small residential customers, new over old ratepayers, and high-income over low-income customers -- as they do in ComEd's cost study. ComEd's cost study invariably resolves any ambiguities with respect to the allocation of installation costs, customer information costs, uncollectible costs, density factors, and the allocation of distribution investments using the approach least favorable to low-income, low-use residential ratepayers.

Cost of Service Option		ComEd Selection
Residential or Business	→	Business
Large or Small Customer	→	Large
Customer or Distribution Cost	→	Distribution
NCP or Average and Peak	→	NCP
High or Low Income	→	High Income

VI. COMED DATA RESPONSES

Q. Has ComEd made a reasonable effort to respond to City data requests?

A. No. ComEd provided very little information in its responses to the City's numerous data requests. Indeed, the company has even chosen not to provide information that it provided in earlier cases. In addition, ComEd has objected to many data requests on the ground that the request is vague and burdensome. One example of many is ComEd's response to City of Chicago Data Request No. 2.40, which is reproduced below.

REQUEST NO. COC 2.40:

The following questions refer to ComEd Exhibit 1.0; the Direct Testimony of J. Barry Mitchell

Please refer to lines 71-78. Please provide a breakdown of the total dollar amount of the proposed rate increase into the three reasons described in the referenced testimony.

RESPONSE:

ComEd has not developed an individual "breakdown" of the need for a rate increase by attempting to relate future revenue needs into the costs of: (1) meeting the needs of new customers, especially in rapidly growing areas; (2) continuing to reliably serve existing customers; and (3) deploying technologies that will improve service. ComEd's revenue requirement is calculated based on its total needs, on an adjusted historical test year basis, and ComEd's revenues under new rates should be sufficient to meet requirements in each of these categories.

In the above request, ComEd apparently dismisses anyone who seeks to use data to assess the policy implications of imposing costs on any basis other than averaging costs across all ratepayers. A second example is ComEd's response to City Data Request No. 2.49:

REQUEST NO. COC 2.49:

The following questions relate to ComEd Exhibit 4.0; the Direct Testimony of George A. Williams

Please reference lines 18 through 26 of Mr. Williams' Direct Testimony. Please provide the number of new customers that underlies ComEd's proposed rate increase for rapidly growing areas.

RESPONSE:

ComEd objects to this data request on the basis that it is vague and ambiguous, and that the request is unduly burdensome. In the course of its normal business practice, ComEd does not collect information to perform the calculations/analysis in the manner requested. Without waiving this objection, and its Standard Objections, ComEd responds as follows:

Mr. Williams' statement was a general statement that stated that rapidly growing areas need expanded distribution facilities and did not reference any specific area.

592

593 It is mystifying that ComEd could not provide the data, and the company certainly
594 has an odd definition of "vague," given that Mr. Williams clearly states that the
595 utility's investment of $1.7 billion in increased rate base has arisen in part because
596 it has had to "expand the distribution system, especially in rapidly growing areas,
597 as customers have demanded." ComEd Ex. 4.0 at 2, L. 21-22.

598

599 ComEd's mostly uninformative responses to the City's data requests demonstrate
600 the futility of attempting to use data requests to advocate for policy issues with
601 which the utility disagrees. For example, more than fourteen years ago, in
602 ComEd's 1994 rate case, ComEd willingly provided data on the number of
603 distribution miles within and outside the City without any problem. Today,
604 ComEd refuses to provide the data, stating "In the course of its normal business,
605 ComEd does not collect or maintain the information required…."

606

Q. Have ComEd's mostly non-informative data responses interfered with your recommendations?

A. While it has required me to resort to alternative sources of information, no. While the data request process has certainly been annoying, the Commission cannot allow the lack of data to interfere with implementing appropriate rate policy. Accordingly, where ComEd refused to provide requested data, I have used a combination of adjusted old data and estimations to quantify the effects of my recommendations. It would be the height of hypocrisy if ComEd complains that our recommendations cannot be adopted because they are not based on appropriate data after the company has been so unhelpful in providing the missing data.

VII. REGIONAL SURCHARGE FOR HIGH COST OF NEW FACILITIES

Q. Does ComEd state that much of its revenue requirement in this case is associated with growth in far collar counties?

A. Yes. ComEd acknowledges that much of the rate increase has little to do with cost increases attributable to existing customers in the City, but results from suburban sprawl. For example, ComEd witness Mr. Mitchell testified that "[t]his growth and the relocation of load to the 'collar' and far 'collar' counties, away from ComEd's traditional main load centers (Chicago and Rockford) have required ComEd to install and expand additional distribution facilities, transform the nature of our networks from rural to higher density, and expand our service in those areas."

ComEd Exhibit 1.0 at 3, L. 56-59. An illustration of a home in one of the new collar counties is shown below.

Q. Why is a surcharge reasonable in this case when such surcharges have not been applied in the past?

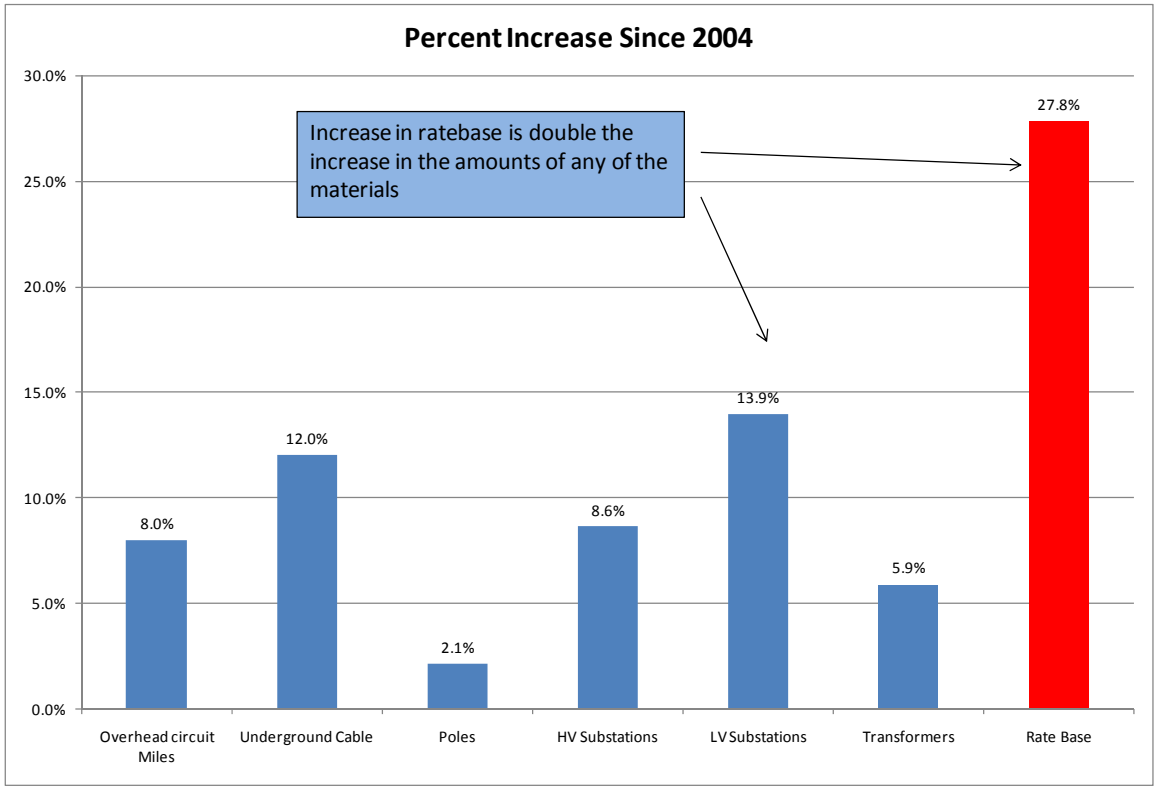
A. The primary reason is the magnitude of the cost per unit paid for new equipment relative to the cost of existing equipment and the regional nature of the distribution business. If the cost per unit of new equipment was similar to the cost of existing equipment, a surcharge would not be necessary or appropriate because increases in sales would offset the cost increases. Without unit cost increases, existing ratepayers would not experience price increases when growth occurs because the increases would be spread over more sales and the overall price per kWh would not change. However, in this case the cost differences are so large that traditional average-cost ratemaking no longer works. The policy question for the Commission is whether regional cost differences caused by relocation to far collar counties are of sufficient magnitude to distinguish rates in a new class.

The data I presented earlier (at pages 14-15, lines 239-54) demonstrated the dramatic increase in the unit cost of distribution lines and the unit cost of transformers from ComEd's 2004 case to this case (recall the cost of new distribution lines is 2.7 per mile times the cost per unit that was in rate base in 2004 and that the cost of transformers is 3.23 per transformer the earlier cost). The high cost of distribution equipment needed to serve customers who have relocated to collar and far collar counties is confirmed by computing the inflation rate for various different types of distribution equipment (from ComEd's testimony) relative to the overall level of inflation. ComEd emphasized that the cost differential due to recent additions of equipment is much higher than past cost differentials associated with new and existing equipment. Based on ComEd's testimony, I have computed the various escalation rates in the table below.

Annual Growth Since 2002	
OH Wire	11.1%
Poles	7.5%
UN Wires	12.0%
Large Transfromers	19.6%
Small Transformers	28.5%
CPI	3.05%

To further illustrate the magnitude of cost increases for new facilities, below I present the number of new overhead lines, underground lines, poles, substations and transformers. Across from the percentage increases in equipment, I show the increase in rate base. These statistics establish that such policy issues must be

evaluated with respect to how ComEd is to recover the costs from ratepayers. Imposing the high cost associated with new customers on existing customers in areas where the costs were not expended would be inequitable.



Q. **Please discuss some examples of regionally differentiated rates and surcharges currently in effect in regulated and unregulated industries.**

A. There are many examples of regionally differentiated rates that are driven by cost differences much smaller than the cost differences illustrated in the above table. Some examples include the supposed incremental costs ComEd imposes on developers to fulfill requests for nonstandard equipment. Other examples include charges imposed under Rider LGC (formerly Rider 28), regionally differentiated

rates for telephone companies and locational transmission prices in PJM's territory.

There are many instances of cost differentiation in competitive industries as well. For example, airline companies have imposed surcharges based upon the run-up in oil prices. These airlines obviously cannot apply the higher cost of fuel on those who do not travel on their planes. Yet, the analogy of airlines imposing surcharges on people who do not fly is the essence of ComEd's proposal: to impose the higher costs of copper (whose price rise is comparable to the run-up in oil prices) on ratepayers who live in the City and other areas who did not cause ComEd to incur the costs of purchasing any such material.

Q. How does undergrounding of distribution lines affect the regional difference in cost of service?

A. Part of the reason for the high costs attributable to new customers is the preponderance of underground lines for new residential developments. The dearth of overhead lines in sprawling new developments is confirmed by the statistic that for new wires, the percentage of undergrounding is more than 60%**,** while the percentage of overhead wire for residential ratepayers in the City is only 17%.[8] As shown above, the cost of underground wire is substantially higher than the cost of overhead wire.

[8] . I have driven to developments with names like Lakewood Springs, Autumn Creek and Sable Ridge in Kendall County and there was not an overhead line to be found among the similar looking large homes. (I also did not see any springs, creeks or ridges on my drive.)

In the past, my impression has been that when ComEd installs underground cable rather than overhead cable, the incremental cost of undergrounding is paid by developers or new ratepayers, or is charged through Rider LGC to ratepayers in the region requiring the undergrounding. To the extent developers and/or new ratepayers would pay the extra cost of undergrounding relative to overhead facilities, the rate impact of undergrounding on existing consumers would of course be diminished. However, in reviewing ComEd plant accounts and its customer advance accounts, as well as other revenues, it is apparent that the amount of underground wire costs not included in rate base is minor. ComEd acknowledged in City of Chicago data request 2.27 that it recorded $61.3 million for both transmission and distribution contributions in aid of construction in 2006. This is only 3.6% of the plant increase and clearly does not compensate existing ratepayers for the higher cost. Furthermore, while ComEd has not provided us with data on new Rider 28 or Rider LGC collections, they appear to be nil or insignificant.

By not recovering incremental construction costs from developers and not imposing Rider 28 or Rider LGC charges on municipalities in the far collar counties, ComEd has aggravated the rate impact on existing ratepayers in the City and elsewhere resulting from the high costs of new facilities in such places.

Q. Please elaborate on why it is inequitable to allow ComEd to continue not to differentiate rates on a regional basis.

A. The inequity of imposing costs of new equipment on existing ComEd ratepayers is important because of the sheer magnitude of the costs ComEd has incurred to serve ratepayers moving to far collar counties. In the aggregate, the plant cost of serving new ratepayers in the far collar counties exceeds the net distribution plant of many mid-sized distribution companies. Consider the analogy of ComEd purchasing another distribution company that requires a similar distribution investment as that demanded by new developments required by migration to collar and far collar counties. In such a case, the Commission surely would not force ComEd ratepayers to pay higher rates to cover its merger partner's higher costs. Yet, that is exactly what ComEd is asking existing ratepayers to do for ComEd's expenditures on new developments.

Q. Could ComEd compute the plant costs associated with new developments by region even though the company has not provided such information in its data request responses?

A. Yes. As part of the franchise agreement between ComEd and the City of Chicago, ComEd is required to provide to the City an accounting report of the expenditures it has made for plant. This plant report tracks the addresses of expenditures made by ComEd, the ComEd region where the expenditures were made, the date the expenditure was made and various other items. Thus, despite its failure to provide information responsive to the City's data requests, it is clear that ComEd can fairly easily identify the amount of plant associated with homes and businesses that have migrated to far collar counties.

Q. How do you propose computing regionally differentiated surcharges?

A. In determining the area upon which to impose a regional surcharge, it is reasonable to compute the surcharges on a county-by-county basis, since imposing charges on a municipality-by-municipality basis would be extremely cumbersome and difficult. Indeed, because of unincorporated areas, the computation of surcharges by municipality may not even be possible. Imposing a charge on all customers in a county – not only new ratepayers -- is fairer than imposing the charge only on new ratepayers, since existing customers realize economic benefits from growth in their areas. For example, to the extent there are farms left in the far collar counties, the farmers have realized economic benefits (land appreciation value) from the movement of residents and businesses to the area, and it is reasonable for them to pay a surcharge. Imposing charges on business located in the growing counties is also equitable; if migration in residential homes prompts the construction of a Wal-Mart store, that store benefits from the same distribution equipment installed to serve the new homes.

Q. Please discuss the mechanics of computing regional surcharges.

A. To compute the amount of the surcharge that should be applied on a county-by-county basis, I recommend using the following five-step process:

Step 1: Remove the revenue requirements associated with customer migration to collar and far collar counties.

Step 2: Compute rates for all customer classes using the lower revenue requirements and lower sales associated with the new ratepayers.

Step 3: Compute the costs associated with new customers on a county-by-county basis for the 17 counties served by ComEd.

Step 4: Divide the incremental costs by total revenues on a county-by-county basis to determine the percentage surcharge for each county.

Step 5: Allocate the county-by-county costs as a percentage of present rates.

Q. Please discuss the environmental implications of regionally differentiated surcharges.

A. Differentiating rates on a regional basis is beneficial from an environmental perspective because it discourages the construction of homes and businesses that have harmful environmental impacts. In my opinion, paving the prairie by replacing carbon-dioxide-consuming farmland with carbon-dioxide-producing homes is a microcosm of the destruction of the Amazonian rain forests. ComEd's rate structure of course does not cause these environmental problems, but it certainly does not help. By imposing the regional surcharge I propose, ComEd's rate structure would become part of the solution rather than part of the problem.

VIII. MULTI-FAMILY DISTRIBUTION COST-OF-SERVICE ANALYSIS

Q. Please summarize your analysis of multi-family distribution cost of service.

A. In this section I discuss adjustments that must be made to ComEd's cost-of-service study to account for factors such as undergrounding and density in order to better measure the costs of serving single-family and multi-family ratepayers. Because the adjustments I recommend are consistent with the marginal cost-of-

794 service studies ComEd submitted in prior rate cases, I begin with a little historical
795 background on ComEd's cost studies and demonstrate that the more precise
796 allocation of costs that I suggest is consistent with the methodology ComEd has
797 abandoned in its more recent rate cases, including this one. Next, I review the
798 allocation procedures used in ComEd's embedded cost-of-service study. Finally,
799 I present the mechanics of my approach, which incorporates density and
800 undergrounding into the embedded cost study.
801
802 **Q. Historically, what kind of cost-of-service studies did ComEd submit to the**
803 **Commission?**
804 A. When I was on the Commission Staff in the late 1970's and early 1980's,
805 marginal cost-of-service studies were encouraged by the Commission, which had
806 hired a number of PhD economists familiar with the writings of Alfred Kahn on
807 the benefits of marginal cost. At that time, ComEd reluctantly revamped its cost
808 studies and developed marginal cost analysis for generation, transmission and
809 distribution costs. However, by the mid-1990's, the tide in favor of marginal cost
810 had turned; though ComEd supported the marginal cost study, it lost favor with
811 other groups. The new Staff at the Commission advocated the use of embedded
812 cost analysis; industrial groups maintained that marginal cost studies favored
813 residential customers; and consultants did not like marginal cost because they
814 were more familiar with embedded studies. With an embedded cost study, rules
815 consistent with NARUC or FERC techniques could be applied that seemed, on
816 their face, to make the allocation process more objective. Moreover, distribution

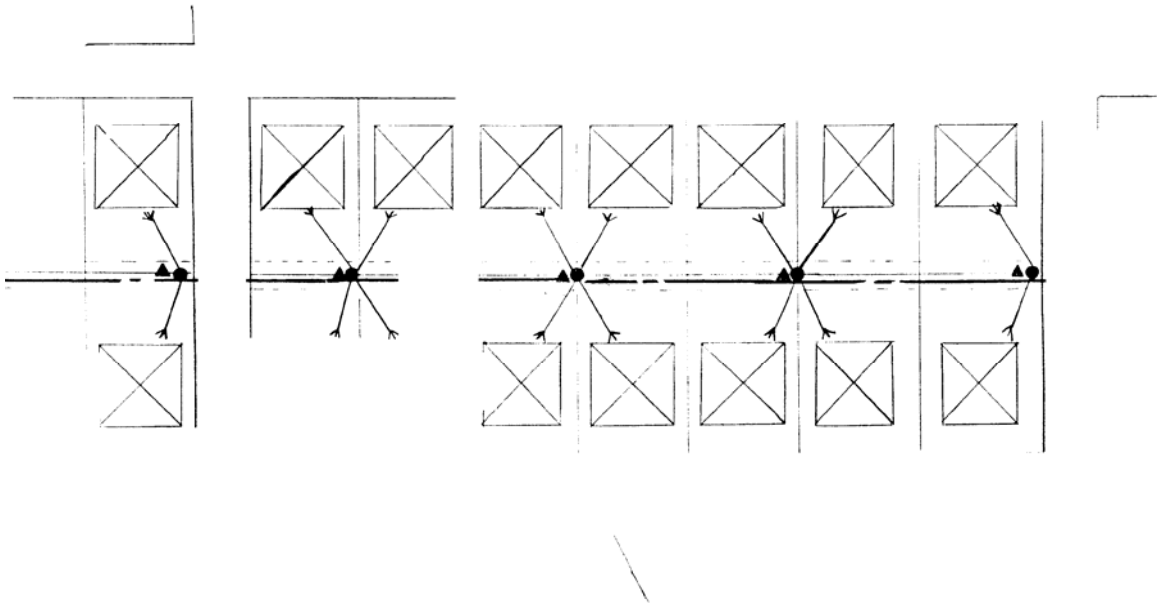
costs did not appear to lend themselves to marginal cost analysis because the costs of wire, substations and other facilities are fixed and do not vary with the amount of energy usage. Given all of the concerns with marginal cost studies, a consensus developed among non-utility parties that using actual costs rather than hypothetical costs is more equitable.

Q. When the embedded cost-of-service study replaced the marginal cost-of-service study, did the quality of cost allocation among customer classes improve?

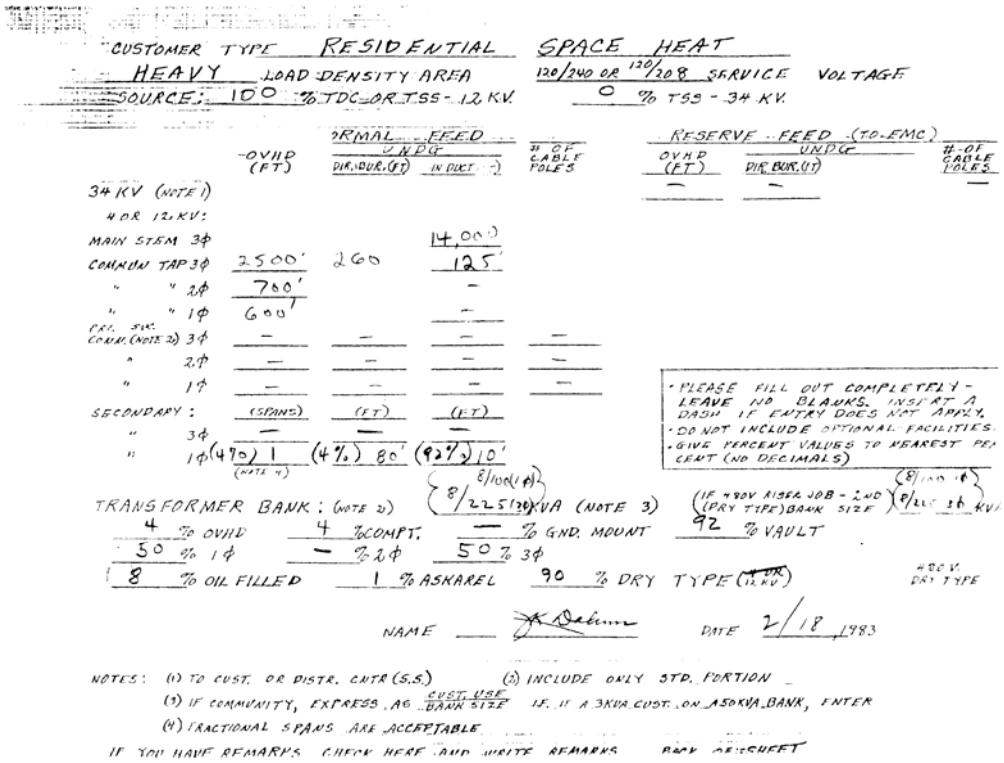
A. No. Unfortunately, when ComEd replaced the marginal cost study with the embedded cost study, the overall quality of the cost-of-service study plummeted. ComEd's marginal cost studies distinguished costs according to density and the extent of undergrounding; sought to identify specific types of facilities used by different types of customers; and attempted to use actual engineering data rather than simple accounting formulas. In doing this, ComEd analyzed the costs of different types of equipment used by ratepayers in the individual rate classes. Once the study identified costs associated with typical ratepayers, it used coincident demand rather than non-coincident loads in aggregating the cost of most distribution equipment (other than secondary wires). Furthermore, costs that ComEd now asserts are entirely customer-related such as customer information and customer installation expenses were not included in or allocated by the marginal cost-of-service study. Instead, because ComEd developed tariff

components on the basis of an equal percentage of marginal cost, these costs were essentially allocated on a percentage of revenue basis.[9]

To illustrate the analysis ComEd performed in preparing marginal cost of service studies, I have included a portion of such a study that presented a diagram of a typical multi-family ratepayer used to account for the density of the particular multi-family dwelling and the ratepayer's undergrounding requirements. I also present one of the surveys filled out by an engineer to differentiate underground and overhead equipment for a typical ratepayer. A simple drive around City neighborhoods confirms that the diagram indeed is a reasonable depiction of actual equipment.



[9] Since many generation costs were allocated on the basis of energy, the allocation of these items was in large part based on an energy allocator.



CUSTOMER TYPE RESIDENTIAL SPACE HEAT
HEAVY LOAD DENSITY AREA 120/240 OR 120/208 SERVICE VOLTAGE
SOURCE: 100 % TDC OR TSS - 12 KV. 0 % TSS - 34 KV.

NORMAL FEED — RESERVE FEED (TO EMC)

	OVHD (FT)	UNDG DIR. BUR. (FT)	UNDG IN DUCT (FT)	# OF CABLE POLES	RESERVE FEED (TO EMC) OVHD (FT)	RESERVE FEED (TO EMC) UNDG DIR. BUR. (FT)	# OF CABLE POLES
34 KV (NOTE 1)					—	—	—
4 OR 12 KV:							
MAIN STEM 3φ			14,000				
COMMON TAP 3φ	2500'	260	125'				
" " 2φ	700'		—				
" " 1φ	600'		—				
CKT. SEC. COMM. (NOTE 2) 3φ	—	—	—	—			
" 2φ	—	—	—	—			
" 1φ	—	—	—	—			
SECONDARY:	(SPANS)	(FT)	(FT)				
" 3φ	—	—					
" 1φ (480) (NOTE 4)	1	(4%) 80'	(92%) 10'				

- PLEASE FILL OUT COMPLETELY - LEAVE NO BLANKS. INSERT A DASH IF ENTRY DOES NOT APPLY.
- DO NOT INCLUDE OPTIONAL FACILITIES.
- GIVE PERCENT VALUES TO NEAREST PERCENT (NO DECIMALS)

TRANSFORMER BANK: (NOTE 2) (8/225(10) KVA (NOTE 3) (IF 480V RISER JOB - 2ND (PRY TYPE) BANK SIZE (8/225) 16 KV

4 % OVHD 4 % COMPT. — % GND. MOUNT 92 % VAULT
50 % 1φ — % 2φ 50 % 3φ
8 % OIL FILLED 1 % ASKAREL 90 % DRY TYPE (~~4 OR~~ 12 KV) 480 V. DRY TYPE

NAME [signature] DATE 2/18 1983

NOTES: (1) TO CUST. OR DISTR. CNTR (S.S.) (2) INCLUDE ONLY STD. PORTION
(3) IF COMMUNITY, EXPRESS AS CUST USE / BANK SIZE IE. IF A 3KVA CUST. ON A 50KVA BANK, ENTER
(4) FRACTIONAL SPANS ARE ACCEPTABLE
IF YOU HAVE REMARKS CHECK HERE AND WRITE REMARKS BACK OF SHEET

Although the diagram of the multi-family lines and transformers and the engineer's survey may seem old fashioned because they were not created with modern computer software, in fact they were the basis for a far more accurate cost analysis than that underlying ComEd's 82-page cost study in this case, which takes no account whatsoever of actual ratepayer characteristics other than the size of the customers' loads. For example, in the current embedded cost study, the cost of transformers is simply allocated between multi-family and single ratepayers according to each class's share of non-coincident peak load, as is done with distribution lines. By contrast, for its marginal cost studies, ComEd measured how many distribution transformers were used in typical configurations and considered the required size of the transformer per ratepayer. Once the new

cost of the transformers was computed for various ratepayer types, the cost was aggregated using the rate class's total non-coincident load.

Q. Are you suggesting that ComEd's marginal cost-of-service study should be resurrected?

A. No. The fact that ComEd's marginal cost study was far more precise than the current embedded cost study does not mean that I advocate requiring ComEd to return to submitting marginal cost studies. The Commission Staff and other parties would be reluctant to use the marginal cost study, and the City certainly identified many defects in the study. For example, ComEd's marginal cost-of-service studies assumed that multi-family ratepayers use substantial in-duct underground wire even though a simple observation of distribution lines demonstrates that virtually all apartments are served by overhead wire from distribution lines in alleys. In addition, the marginal cost studies ignored survey data from ComEd's engineering staff. Therefore, rather than reinstate the marginal cost study, I recommend that the Commission require embedded cost studies to be modified to more accurately reflect the actual cost of serving different customer groups.

Q. Does ComEd allocate a large portion of the total costs of service to the multi-family class?

A. Yes. The costs ComEd allocates to the non-space heat multi-family class are shown in the table below. The table demonstrates that while non-space heat

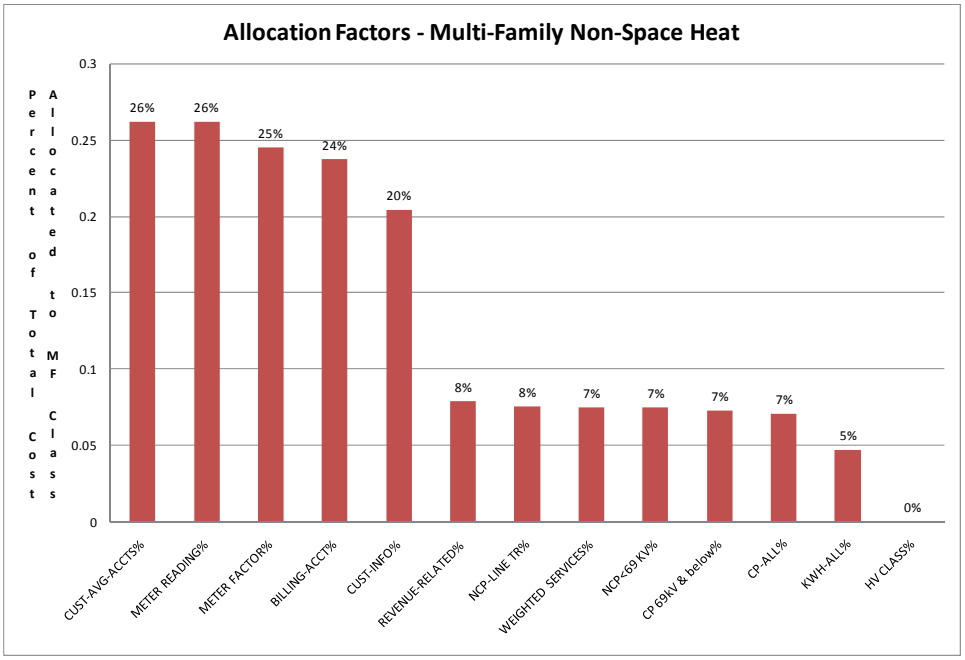
ratepayers account for only 4.7% of ComEd's energy sales, ComEd assumes they contribute to 10.6% of total costs of service and that they are the cause of more than 21% of total ComEd's total customer costs.

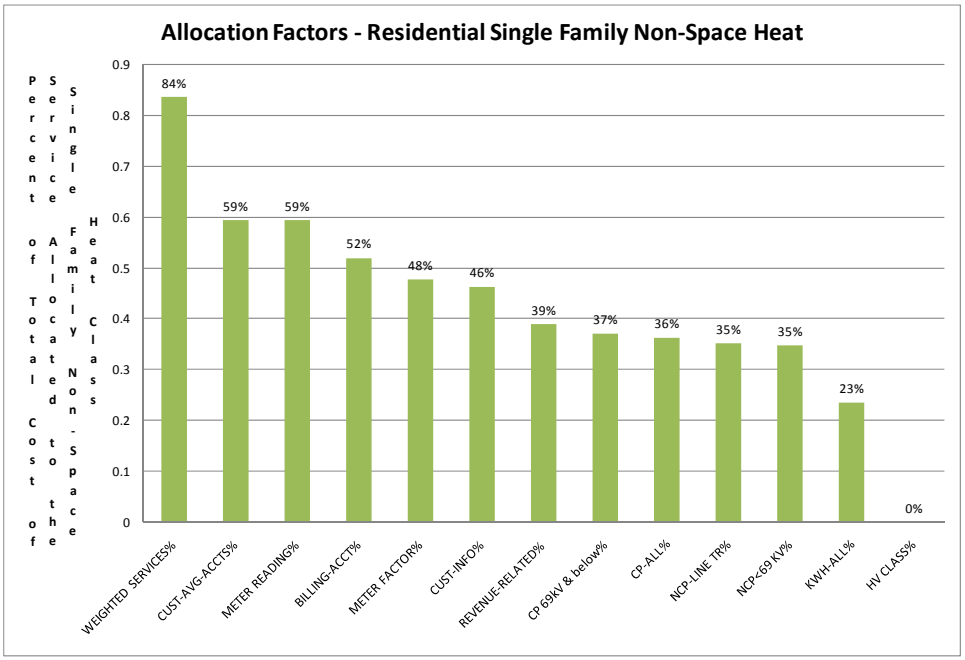
	Multi Family No Space Heat Cost of Service	Percent of Total Multi-family	Total ComEd Cost of Service	Percent of Total Cost of Service	Multi-family as Percent of Total ECOSS
Distribution Costs					
High Voltage Dist. Substations	21,200,681	9.7%	300,573,035	14.7%	7.1%
High Voltage Dist. Lines	2,821,236	1.3%	39,693,628	1.9%	7.1%
Distribution Substations	6,872,509	3.2%	91,844,983	4.5%	7.5%
Distribution Lines	68,958,823	31.7%	921,573,398	45.0%	7.5%
Line Transformers	6,644,542	3.1%	87,864,314	4.3%	7.6%
Uncollectible Accounts (Distribution)	3,125,497	1.4%	9,397,005	0.5%	33.3%
Fixture Included Lighting			19,344,870	0.9%	0.0%
Revenue-Related (Distribution)	-1,305,408	-0.6%	-15,679,541	-0.8%	8.3%
Subtotal - Distribution Costs	108,317,880	49.8%	1,454,611,693	71.0%	7.4%
Customer Costs					
Cost of Meter and Reading	$ 29,292,394	13.5%	120,112,847	5.9%	24.4%
Cost of Processing a Bill	6,827,780	3.1%	26,056,431	1.3%	26.2%
Subtotal - Reasonable Customer Costs	36,120,174	16.6%	146,169,278	7.1%	24.7%
Cost of Customer Installation	15,616,389	7.2%	59,595,853	2.9%	26.2%
Cost of Customer Information	2,476,501	1.1%	12,119,626	0.6%	20.4%
Cost of Data Management	42,202,360	19.4%	177,804,047	8.7%	23.7%
Cost of Service Lines	6,459,865	3.0%	86,257,342	4.2%	7.5%
Cost of Uncollectible Accounts	2,056,825	0.9%	4,111,387	0.2%	50.0%
Revenue-Related (Customer)	-859,062	-0.4%	-3,953,150	-0.2%	21.7%
Subtotal - Other Customer Costs	67,952,879	31.2%	335,935,105	16.4%	20.2%
Total Costs that would occur with zero usage	104,073,052	47.8%	482,104,383	23.5%	21.6%
Illinois Electricity Distribution Tax	5,316,805	2.4%	112,109,941	5.5%	4.7%
Total Cost of Service	217,707,737	100.0%	2,048,826,000	100.0%	10.6%
KWH Sales	4,318,599,079		91,061,817,219		4.7%
Non-Coincident Peak	1,541,380		23,460,965		6.6%
Total Customers	982,552		3,749,652		26.2%

Q. Why does ComEd's embedded cost-of-service study make this surprising allocation to multi-family ratepayers?

A. The allocation is the direct result of ComEd's assumptions and judgments as to what allocation factors should be applied to various costs. The two charts below compare allocation factors for the multi-family and single-family non-space heat classes. Note that, compared to the single-family graph, the multi-family graph shows a more pronounced, steep gap between the customer allocations and the

energy and/or demand allocations. ComEd's propensity for dumping costs into the customer category is a major reason that the utility's cost of service study is so inequitable for multi-family ratepayers.





Q. How should distribution costs be adjusted in ComEd's embedded cost-of-service study to make the cost allocation more reasonable?

A. In terms of distribution cost, ComEd's embedded cost-of-service study should be revised to reflect a number of different factors in the cost allocation as well as the size of the customer class's non-coincident peak load. These factors include the percentage of overhead and underground lines, density in terms of miles per customer, transformers per customer and substations per customer. In making these adjustments, I suggest maintaining the same inter-class allocation between residential and non-residential classes, focusing solely on the residential non-space heat intra-class allocation.

Q. Can you use a simple hypothetical example to demonstrate how regional data can be used in adjusting allocation factors?

A. Yes. Assume a utility's service territory has two regions, Region A and Region B, with different characteristics in terms of single-family and multi-family consumers and density. Assume Region A has 60% multi-family consumers while Region B has only 20%. In addition, assume Region A has a density of 30 ratepayers per distribution line mile while Region B has a density of 20 ratepayers per distribution line mile. Using this hypothetical data, and assuming that the multi-family density is the same as the single-family density in both regions, one could determine the multi-family and single-family density in each region. To do so, one has to understand that overall density for Region A and Region B is the weighted average of the single-family ("SF," in the below equations) density and

the multi-family ("MF," in the below equations) density. The following set of equations illustrates the process:

Region A Density (Given as 30) = MF Density x 60% + SF Density x 40%

Region B Density (Given as 20) = MF Density x 20% + SF Density x 80%

Because there are two equations and two unknowns in the above set, one can determine MF Density and SF Density. Using the particular example discussed above, the MF Density is 10 miles per consumer while the SF Density is 60 miles per consumer. If one simply represented the MF density using the observed density for Region A (the region with more multi-family consumers), the multi-family density statistic would be much lower -- 30 miles per consumer instead of 60.

Q. How could allocators that take account of density be reflected in the simple example?

Once the SF Density and the MF density are established, these density statistics can be used in allocating costs. To illustrate how this could be done, assume first that a total of $100,000 of distribution line costs are simply allocated on the basis of the number of customers, and that there are 1,000 multi-family ratepayers and 2,000 single-family ratepayers. Without accounting for density, two thirds of the cost -- $66,667 -- is allocated to the single-family group, and one third -- $33,333 -- is allocated to the multi-family group. If density is included in the analysis,

however, the number of customers can be multiplied by the lines per customer to derive the miles of line for each customer group. Then, the number of miles rather than the number of customers can be used to allocate the cost of distribution lines. This allocation can be accomplished with the following equations:

SF Miles = SF Miles per Consumer x SF Consumers

MF Miles = MF Miles per Consumer x MF Consumers

Total Miles = SF Miles + MF Miles

SF Allocation = SF Miles/Total Miles

MF Allocation = MF Miles/Total Miles

The allocation that accounts for density using our simple example is illustrated in the table below:

Illustration of Cost Alloction with Density Considered			
Total Cost to Allocate	100,000		
	SF	MF	Total
Without Density			
Customers	2,000.00	1,000.00	3,000.00
Percent	67%	33%	100%
Cost	66,667	33,333	100,000
Cost per Customer	33.33	33.33	33.33
With Density			
Customers per Mile	10.0	60.0	13.85
Total Miles	200.00	16.67	216.67
Percent of Total	92%	8%	100%
Allocated Cost	92,308	7,692	100,000
Cost per Customer	46.15	7.69	33.33

Q. Can the approach used in this simple hypothetical example be applied to ComEd's cost of service study?

A. No. The formulas presented above would work well in allocating costs between single- and multi-family ratepayers as long as the single- and multi-family characteristics were similar in each region. For ComEd's service territory, however, this is not the case because single-family density is higher outside the City than inside the City. Given this disparity, I have simply used the City of Chicago density as representative for all multi-family consumers. As demonstrated by the hypothetical example, this approach unequivocally favors the multi-family class in terms of cost allocation relative to a weighted average calculation.

Q. Why not simply set different rates for residential consumers in the City and the suburbs?

A. One certainly could take that approach. However, I applied the density analysis to multi-family and single-family ratepayers simply because of the structure of ComEd's billing systems and tradition at the Commission.

Q. Could you use a couple of formulas to demonstrate how a better allocation be developed than the approach used by ComEd?

A. Yes. In presenting the formulas that can be used to incorporate density into the cost allocation process, I will set aside ComEd's failure to provide reasonable responses to the City's data requests and assume we have current data on City and

suburban densities, overhead cost per mile and underground cost per mile. Beginning with the process used by ComEd, one could write the allocation formula for distribution lines for the multi-family class as follows:

Cost to MF Class = Total Line Cost/Total Load x MF Load

A formula that more closely captures the cost of serving multi-family customers by incorporating density, the percentage and cost of undergrounding is shown below:

MF Cost = MF Miles/Load x Overhead Cost/Mile x Percent Overhead

Plus

MF Miles/Load x Underground Cost/Mile x Percent Underground

A similar approach to the above example set of equations can be used to allocate various different costs in the ComEd embedded cost study such as transformers and substations. The formula for the cost of transformers and substations for the multi-family class would be as follows:

MF Transformer Cost = MF Transformers/Load x MF Cost per Transformer

MF Substation Cost = MF Substations/Load x MF Cost per Substation

Q. What data have you used in applying the above formulas?

A. Since ComEd did not provide useful data in the discovery process, I used other available data, including data ComEd provided in prior cases and the 2006 plant report that ComEd provided to the City pursuant to the franchise agreement. I have not been able to allocate substations because of a lack of data differentiating equipment in Chicago's central business district from equipment in residential areas. The challenge of computing the overhead distribution cost per mile on a regional basis is also made difficult because of the higher cost of tree trimming in suburban areas than in the City -- data that was not provided by ComEd. Furthermore, in measuring the cost of underground equipment per customer and substations per customer, it is not possible to differentiate the costs using City and suburban data because the City data is skewed by the underground network in the central business district that, for the most part, does not serve residential consumers.

Given the paucity of data provided by ComEd and the distortions associated with the cost of equipment for the downtown area, I have assumed the same cost of overhead equipment per mile applies inside and outside of the City. This procedure produces the following allocators as compared with the allocation factors used by ComEd:

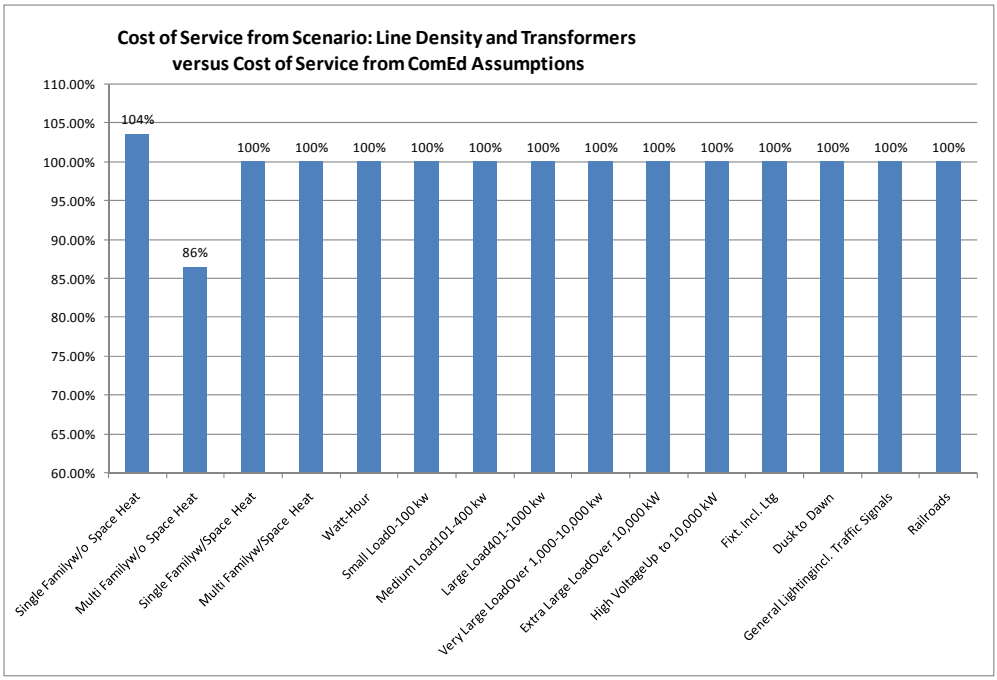
Allocation of Single Family and Multi-family Costs Incorporating Density and Overhead vs Underground				
	Single Family w/o Space Heat	Multi Family w/o Space Heat	Total Residental Non-Space
Allocation of Distribution Lines			
NCP in ComEd Cost of Service Study	8,169,521	1,755,520	9,925,041
Percent Allocator	**82%**	**18%**	**100%**
Overhead			
Miles/Sales	1.95	0.93	1.72
OH Cost/Mile	$ 7,910.49	$ 7,910.49	$ 7,910.49
Cost/Sale (Miles/Sale x Cost/Mile)	$ 15,439	$ 7,369	$ 13,636
Sales	19,777	5,689	25,467
Total Cost	$ 305,344,867	$ 41,925,591	$ 347,270,458
Percent Overhead	50%	83%	
Total Cost of Overhead	$ 152,672,434	$ 34,798,240	$ 187,470,674
Underground			
Miles/Sales	1.74	0.81	1.53
UN Cost/Mile	$ 10,823.66	$ 10,823.66	$ 10,823.66
Cost/Sale (Miles/Sale x Cost/Mile)	18,832	8,716	16,572
Sales	19,777	5,689	25,467
Total Underground Cost	$ 372,454,227	$ 49,586,763	$ 422,040,990
Percent Underground	50%	17%	
Total Cost of Underground	$ 186,227,113	$ 8,429,750	$ 769,311,448
Total Cost	$ 338,899,547	$ 43,227,990	$ 382,127,537
Corrected Allocator	89%	11%	100%
Allocation of Transformer Cost			
NCP in ComEd Cost of Service Study	8,169,521	1,755,520	9,925,041
Percent Allocator	82%	18%	100%
Transformer Cost	$ 897,785,258	$ 60,241,670	$ 958,026,928
Percent Allocator	94%	6%	100%

Q. Is the approach you developed perfect?

A. No. Because ComEd did not provide relevant data, my approach is less than ideal. But it is far better than the alternative -- ComEd's approach, which completely ignores fundamental differences in characteristics affecting the cost of serving different customer classes. My approach could be improved if ComEd were required to conduct engineering surveys to assess the distribution line miles per customer and the actual equipment cost per mile for multi-family and single-family customers. Absent such surveys, however, the French proverb "*le mieux est l'ennemi du bien*" – the better is the enemy of good -- is apropos.

Q. What is the effect on individual rate classes of adjusting the allocation of distribution costs to reflect customer density and other cost-related factors?

A. The chart below shows the effect on the cost of service for ComEd's customer classes of my proposed density and cost-allocation adjustments. (Note that the chart does not include any of my proposed adjustments for regional cost allocation, costs that ComEd treats as customer costs, or use of the average and peak allocator.) Adopting only my density and cost-allocation adjustments would reduce the cost of service for multi-family ratepayers by 14% and increase the cost of service for single-family ratepayers by 4%.



IX. CUSTOMER COST ANALYSIS

Q. Please summarize your findings with respect to customer cost allocation.

A. This section addresses customer charges and customer costs from the perspective of low-use and low-income customers. I demonstrate that allocating installation costs, customer information costs and uncollectible expenses on the basis of the number of customers is inappropriate and that these costs should instead be allocated on the basis of energy usage. My discussion also considers whether it is appropriate to allocate costs of data management primarily on the basis of the number of customers, as ComEd's cost study does. In the data management category, I conclude that a portion of the associated expenditures -- particularly those related to systems that implemented deregulation -- are not used and useful for residential customers. Further, some costs of data management should be allocated on the basis of energy sales rather than the number of customers in the residential class. In addition, some data management costs should be allocated to the non-residential classes.

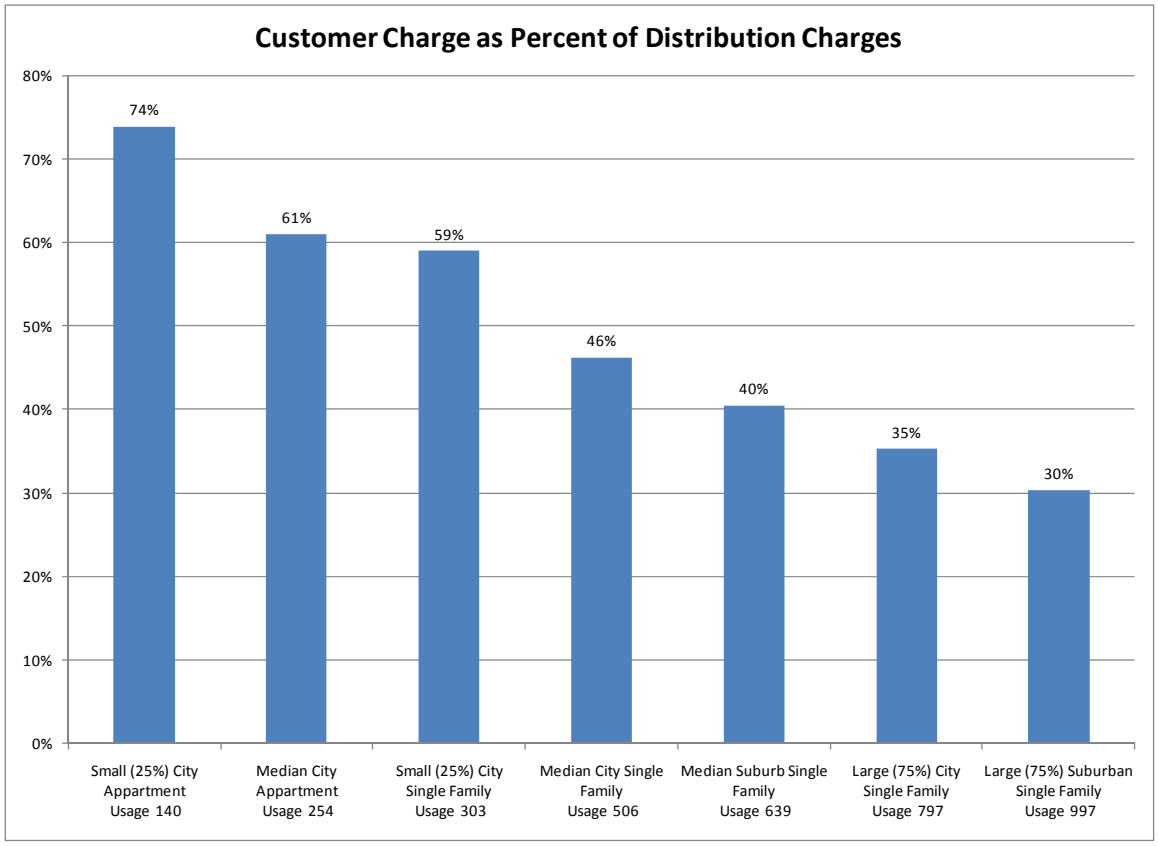
In discussing customer costs, I begin by considering the effects of customer charges on low-use ratepayers and other ratepayer groups. Then, I recount the Commission's directive on this issue in ComEd's 2001 DST rate case (Docket No. 01-0423), and ComEd's response to the Commission's order. Next, I explain the mechanics of my proposed adjustments to ComEd's cost-of-service study. Finally, I present the effects of my adjustments on different customer classes.

Q. How do ComEd's proposed changes to the customer charge affect different types of ratepayers?

A. As I stated at the outset of my testimony, ComEd proposes a dramatic increase in the customer charge portion of distribution rates. The customer charge portion of bills includes the cost components that do not vary with energy usage or demand. In December 2005, ComEd's multi-family customer charge was $2.94 per month, In its last rate case, the Commission approved ComEd's request to increase the charge to $7.94 per month. In this case, ComEd seeks to increase that charge yet again, this time to just below $10 per month. ComEd's single-family customer charge was $7.13 per month before the end of the rate freeze. It then increased as a result of the last rate case to $9.47 per month, and ComEd now proposes to increase it to $10.90. As I stated above (at pages 9-10, lines 146-58), ComEd's proposed customer charge is much more regressive than those of other utilities in the group ComEd deemed appropriate for comparative purposes in its previous rate cases.

Increases in fixed charges are particularly burdensome for lower-use ratepayers. In the City, 50% of multi-family customers consume 254 kWh per month or less; 25% consume 140 kWh per month or less. In the case of single-family ratepayers in the City, 50% consume 506 kWh per month or less, while 25% consume 302 kWh per month or less. The percentage of the customer bill that consists of customer charges for various usage profiles is shown in the graph below. As the graph shows, the customer charge represents a high percentage of total customer

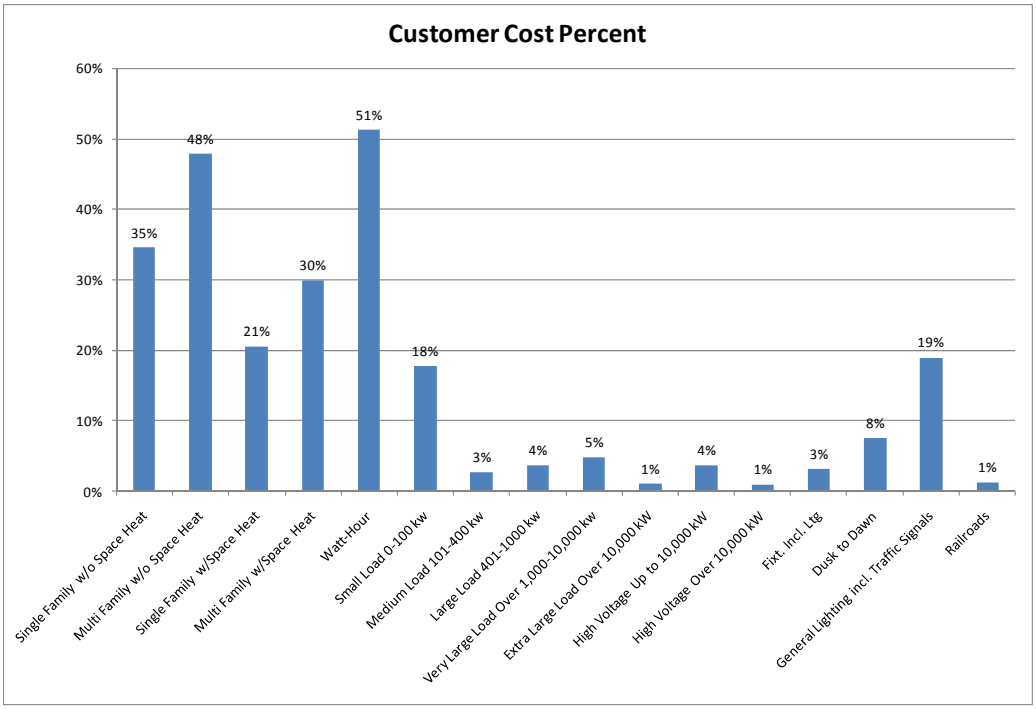
bills for City ratepayers, but a much less significant portion of outside-City consumers' bills.



Q. Which rate class has the highest proportion of customer costs relative to total costs?

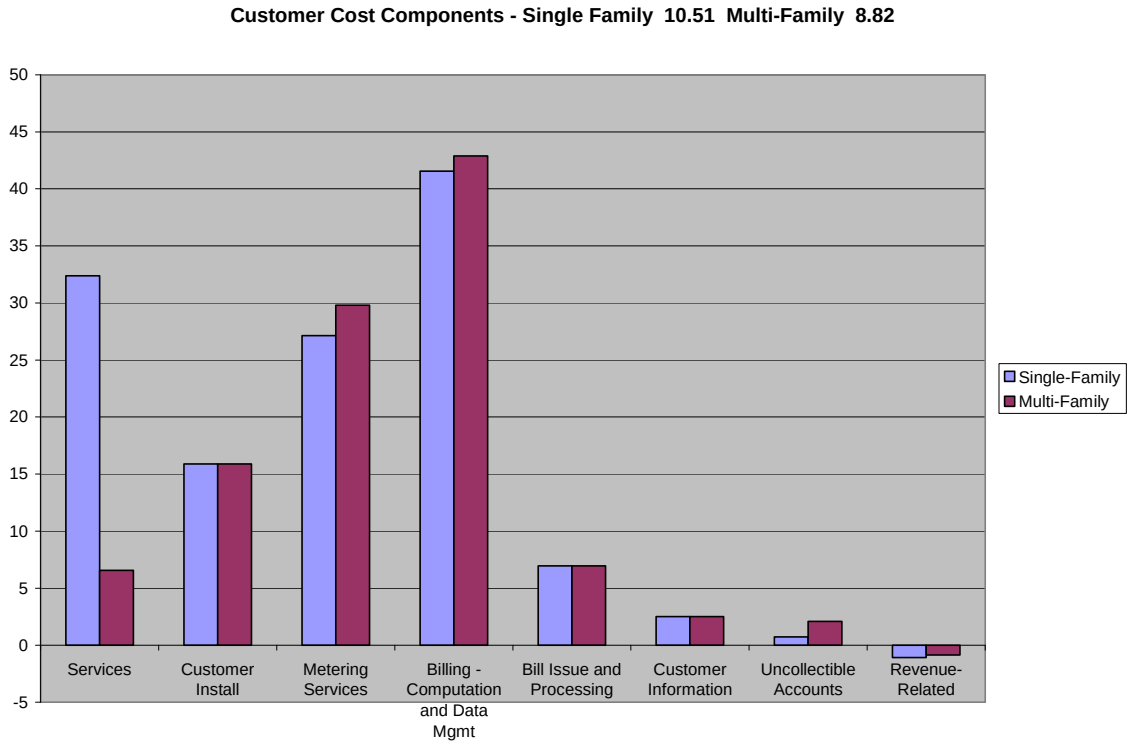
A. The graph below compares customer costs as a percentage of total cost for different classes. The highest two bars on the chart are for the lowest-use ratepayers -- small businesses and multi-family consumers (customers who are most likely also to have low incomes). One would be hard pressed to think of a product in the economy where you have to pay 50% of the price even if you do

not buy anything at all. It is as if a grocery store could send you a monthly bill just because it has advertisements you might watch. Alternatively, by stopping in the store once to buy chewing gum, they can send you a bill because they compile your data and/or you might theoretically make a call to their complaint department.



In ComEd's embedded cost study, customer costs are computed by summing the costs of customer installation, metering services, billing, customer service and customer information. In terms of revenue requirements, total customer costs amount to 20% of ComEd's total cost of service. Out of the total customer costs, more than 80% are allocated to residential customers because ComEd allocates the costs based on the number of customers rather than energy sales or peak

demand. As shown in the chart below, the largest single category that makes up the customer cost is a category ComEd calls computation and data management.



Q. Is ComEd's customer cost allocation philosophy reasonable?

A. No. ComEd seems to presume that if there is any ambiguity as to how a cost should be classified, the cost should be considered a customer cost. An apparent corollary to this default approach is that if the word "customer" is part of the name of an accounting category, then that account should be allocated based on the number of customers in each rate class. The customer information cost is a salient example. This cost was not allocated in ComEd's marginal cost study, implying that it was allocated as a percentage of other marginal costs -- that is,

revenues or energy usage. This approach produced a much less regressive method of allocating such costs than based on the number of customers.

The fundamental question to ask with respect to customer cost allocation is whether a ratepayer who used no or almost no electricity for eleven months of the year caused the cost. In the case of customer information costs, the answer to that question is a resounding "no," since presumably the larger a consumer's load, the more the customer will use ComEd information. The same principle is largely true of other costs ComEd identifies as customer costs, such as customer installation costs and data management costs.

Q. Have you presented your recommendation to modify the traditional allocation of customer costs in prior cases?

A. Yes. The City argued in prior delivery services cases that to appropriately determine customer charges, the actual costs of purchasing and installing a meter, reading the meter, and preparing a simple bill must be separated from costs associated with complicated computer systems and other items that do not benefit ComEd's bundled service ratepayers. In fact, I presented this recommendation in Docket No. 01-0423, and the Commission accepted the general notion of our argument. Although the Commission did not make an adjustment for the customer costs based on my recommendation, in its April 1, 2002 Interim Order, it observed that, "The Commission agrees that the Company's use of traditional allocations of customer related expenses are of concern and should be reviewed in

future filings." *In re ComEd*, ICC Docket No. 01-0423, Interim Order at 129 (Apr. 1, 2002).

The portion of the Commission's Interim Order that asked ComEd to review allocation of customer related expenses was important to the City. We have been fighting to make ComEd's rates less regressive since considering municipalization in 1989 and have always realized that making gains for the smallest consumers in a contested case in front of the Commission is extraordinarily difficult.[10] Needless to say, given the difficulty in making progress, when the Commission suggested that our position to re-examine the customer allocations had merit and ComEd should change future cost of service studies, we were delighted.

Unfortunately, ComEd did little to address the Commission's concern. ComEd's reluctance to make reasonable changes to its cost–of-service study along with its failure to provide relevant information in response to data requests has left the City with limited options in this case. The first option is to make the same arguments and perform the same tedious analysis as the City did in Docket 01-0423, hoping that the Commission accepts the details of our analysis. To do this, however, we would need information ComEd has not provided, such as what portion of the total customer cost is related to the transition to deregulation. The second option is to simply assume, by default, that allocating a cost according to

[10] When allocating costs among ratepayer classes, there is sometimes the misguided notion that the company does not have an incentive to bias cost measurement, meaning that ComEd's cost of service study is often accepted.

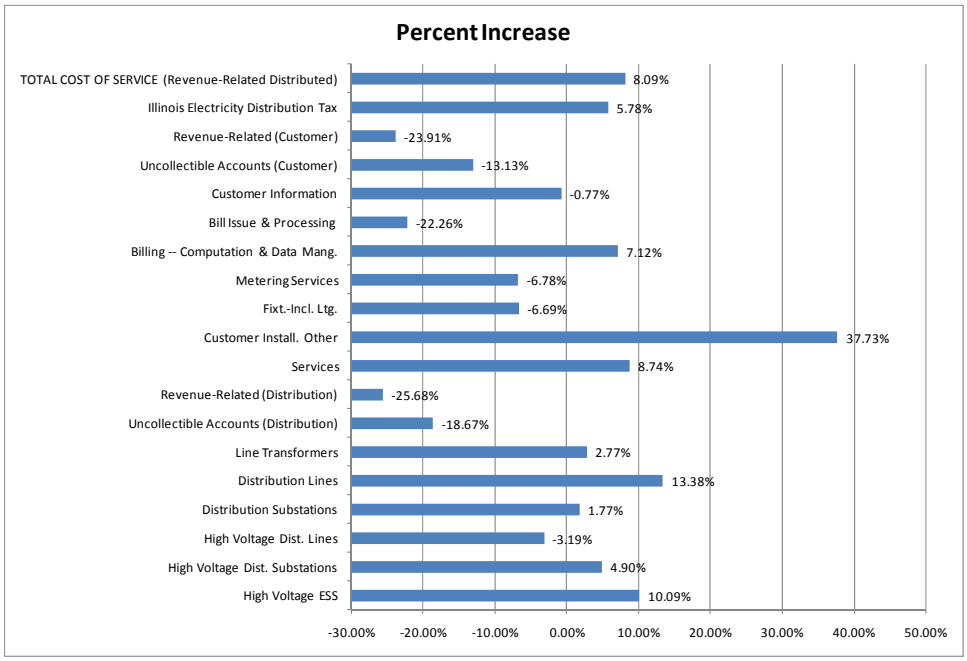
the number of customers is appropriate only if the cost would exist even if usage were zero or next to nothing. The final approach is to allocate the costs according to energy sales, which essentially is the approach ComEd used when it submitted marginal cost studies.

In addressing customer costs, I begin by discussing items other than data management and compilation costs -- customer installation costs, customer information costs and uncollectible expenses. As discussed below, these costs do not lend themselves to allocation using any of the standard allocators -- peak load, sales or number of customers.

Q. Please discuss your recommendation with respect to the appropriate allocation of costs that ComEd labels customer installation costs.

A. The costs ComEd has labeled customer installation costs make up $19.369 million of the total revenue requirement in ComEd's embedded cost study. Such costs include $17 million of plant cost for installation on customer premises (accounts 371 and 372), $88 million in general plant cost and $16.8 million in operation expenses for an account entitled "customer installation" (account 587). Since installation costs are caused by new ratepayers, cost allocation principles dictate that the costs be allocated to new customers -- the cost causers. The chart below, which shows the percent increase in various ComEd costs from the last rate case to this case, illustrates that installation costs are the cost item with the largest increase. This is logical, given ComEd's discussion of the high cost it has incurred for ratepayers who have chosen to move farther from the City.

Moreover, this demonstrates that installation costs are related to the number of ratepayers who move to remote areas, not to the number of existing customers.



Because ComEd does not have a provision for charging new customers for costs they cause, the company resorts to allocating the cost in the most regressive manner possible -- based on the number of ratepayers in each class. Nonetheless, logically, larger ratepayers with higher demands and more equipment needs also cause ComEd to incur higher installation costs. Since ComEd does not have billing determinants to allocate installation costs to new customers, a second best alternative is to allocate costs on the basis of energy sales across all customer classes. Moreover, these costs should be classified as facility costs rather than customer costs in the cost-of service-study.

Q. How do you recommend that ComEd allocate uncollectible costs in its embedded cost-of service-study?

A. Properly allocating uncollectible accounts poses a similar issue as allocating installation costs, because the customer group who cause the costs -- and to whom the costs, accordingly, should be allocated -- is not identified in ComEd's billing determinants. The customer group who should be charged for uncollectible expenses would, of course, be customers who do not pay their bills: they clearly cause ComEd to incur uncollectible costs. However, because, by definition, it is impossible to impose costs on those who do not pay their bills, ComEd again resorts to the most regressive allocation method possible -- allocating such costs in a manner that disproportionately affects the lowest-use ratepayers on the system. In fact, ComEd allocates a very large portion of the uncollectible cost -- 38.4% -- to non-space heat multi-family ratepayers (by comparison, the percentage of such customers in the on the overall system is 26%, and the associated percentage of energy sales is less than 5%).

Historically, ComEd has allocated a disproportionate share of uncollectible expense to the multi-family residential class under the assumption that low-income consumers in the multi-family class are more likely not to be able to pay their bills. Although this may seem to be a reasoned statistical analysis, the issue is one of logic, not statistical analysis. Taken to its extreme, ComEd's practice of allocating uncollectible costs to customers with similar characteristics as consumers who do not pay their bills would dictate that ComEd's entire

uncollectible expense be allocated to only a handful of-low income ratepayers who cannot afford to pay ComEd rates. According to ComEd's logic, the company should identify customer characteristics that have the highest correlation with uncollectible accounts -- surely the level of income would be the primary driver. Other characteristics such as marital status, whether people smoke, prior criminal convictions, race and other characteristics could also be statistically significant. Once all of these characteristics were identified, ComEd could allocate all of the uncollectible expense to the hundred or so customers who best fit the statistical analysis. After all, statistically speaking, such consumers would have the most in common with customers who do not pay their bills.[11]

The question is what alternative allocation method should be used. Given that uncollectible expenses cannot be imposed on non-paying ratepayers, ComEd should resort to a reasonable alternative. One such method is to first compute uncollectible expenses as a percentage of revenues separately for residential and non-residential customers, and then multiply the uncollectible expense by the resulting revenue levels.

Q. What is your recommendation for allocating customer information expenses?

[11] If ComEd made such logical assumptions in designing rates across the board, perhaps ComEd's allocation method for uncollectible costs would be more palatable. For instance, as I have mentioned several times, ComEd stated time and time again in response to City data requests that it does not collect, retain or report data on a regional basis. As a result, ComEd could not break down the percentage of new wires, new transformers and other new facilities and equipment on a City/non-City basis. Nor could ComEd state what percentage of such new facilities and equipment was installed to meet growth in the collar and far collar counties. Applying logic, as ComEd does with respect to allocating uncollectible costs, dictates that the costs of such new facilities and equipment should be allocated to those who cause them -- the residents of the collar and far collar counties.

A. As with customer installation and uncollectible costs, ComEd's cost of service study allocates customer information expenses using the number of customers in each customer class. While in response to City data requests, ComEd did not provide details on what expenses are included in this cost category, from past cases my understanding is that much of the expense is associated with ComEd customer account representatives and advertising. It seems implausible that a customer account representative would visit residential customers (low-use customers in particular). It also is not logical to assume that a ratepayer who uses minimal electricity benefits from ComEd advertising. Despite these commonsense considerations, ComEd allocates customer information costs in the most regressive manner possible. As I have recommended with respect to customer installation expenses, a far more logical and reasonable approach is to allocate customer information costs across all ratepayer classes based on energy use. This method is consistent with the approach ComEd used in the era of marginal cost studies, as customer information cost was not considered a marginal cost. And, like customer installation costs, customer information expenses should be classified as facility costs.

Q. Please discuss your recommendations with respect to the allocation of services.

A. In allocating services, ComEd retains the analysis it used in marginal cost studies. It is telling that this cost is allocated with more precision than any other cost in the embedded cost-of-service study. While I do not advocate changing how ComEd

allocates services, I do believe its classification should be changed. Even though more wire is required to serve large homes with spacious backyards than for small bungalows, ComEd treats services as customer costs, thereby driving up the customer charge. The size of a customer's premises also affects the cost of services, because large residential ratepayers tend to have underground services. Thus, the cost of services should be classified as facility costs.

Q. How do you recommend that ComEd allocate the cost category entitled "billing and data management?"

A. The most complex cost category to allocate is entitled "billing – computation and data management," which is not the same as the category named bill issue and processing. The total cost in this category is $178 million. It is the largest single expense that ComEd classifies as customer cost, amounting to more than $40 per year for every customer. ComEd apparently did attempt to allocate such costs between residential and non-residential ratepayers. However, the costs are primarily allocated based on the number of customers, on the assumption that such costs are attributable simply to the number of customers. Nevertheless, a substantial portion of the costs in this account is associated with implementing systems to accommodate deregulation. For example, ComEd's witness, Ms. Clair, testifies that the Post-2006 Rate and Billing Project "included additions and modifications to ComEd's Retail Office and PowerPath Data Mart, and to related systems. These additions and modifications allowed retail customer usage to be mapped to the customer's chosen supplier (whether ComEd or a RES) and

allowed us to provide common usage information to all market participants." ComEd Ex 6.0 at 10, L. 205-09. Out of a total 982,552 multi-family consumers, not one has selected competitive service. One does not have to use sophisticated economic theory to realize that it is unreasonable to impose costs such as expenses related to ComEd's Retail Office disproportionately on low-use, multi-family ratepayers. To say the least, it seems unlikely that multi-family customers benefit from the Retail Office or PowerPath Data Mart, but they bear a disproportionate share of the cost.

In ComEd's 2001 delivery services rate, I evaluated the details of billing and data management expenses, and concluded that about 30% of such costs should be allocated to non-residential classes because they related to deregulation -- costs that have no value for residential consumers. As of the filing of this testimony, we have not received data from ComEd that allows me to make a similar analysis. Since ComEd appears to have moved some costs to non-residential classes, I propose allocating 20% of such billing costs to non-residential classes in this case. In terms of the split between energy and customer allocation within the residential class, I recognize that determining whether a cost is independent of size or not involves some judgment and discretion. Further, as with the allocation to non-residential ratepayers, the City has not received data that would allow me to conduct a detailed analysis of each cost function. Given the lack of data from ComEd, I have allocated 50% of the data management costs on energy usage within the residential class. The basis for this allocation is that many costs in the

category -- even costs such as the cost of the call center -- would not be incurred if usage were zero.

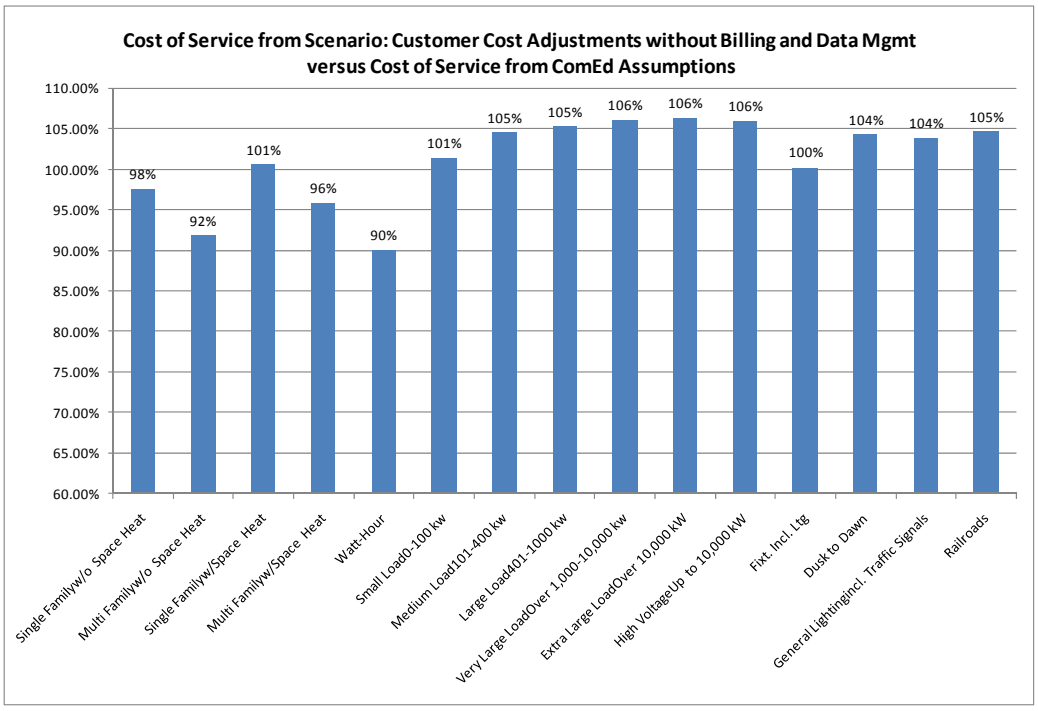
Q. Can you summarize the appropriate allocation procedures for the customer costs you have discussed?

A. Yes. The table below summarizes allocation procedures that are more equitable than those used by ComEd.

Cost Item	Recommended Allocation Factor	Same as ComEd	Customer Cost or Facility Cost
Meters	ComEd Meter Study	Yes	Customer
Bill Issue and Processing	Number of Customers	Yes	Customer
Services	ComEd Marginal Cost	Yes	Facility
Customer Installation Cost	kWh - All Classes	No	Facility
Customer Information	kWh - All Classes	No	Facility
Uncollectible Accounts	Pct Overall Residential	No	Facility
Data Management and Compilation	Step 1: Allocate 50% by kWh in Residential class Step 2: Allocate 20% to Business Classes	No	Facility

Q. Can you quantify the effects of your customer cost allocations on different rate classes?

A. Yes. The effects of the adjustments on the cost of service for each class are shown in the two graphs below. These graphs do not include any of the other adjustments I recommend to account for density, overhead lines or energy and peak allocation. In addition, the first graph does not include any of the adjustments I propose for the data management and compilation account; the second graph is based on all of my customer account adjustments.



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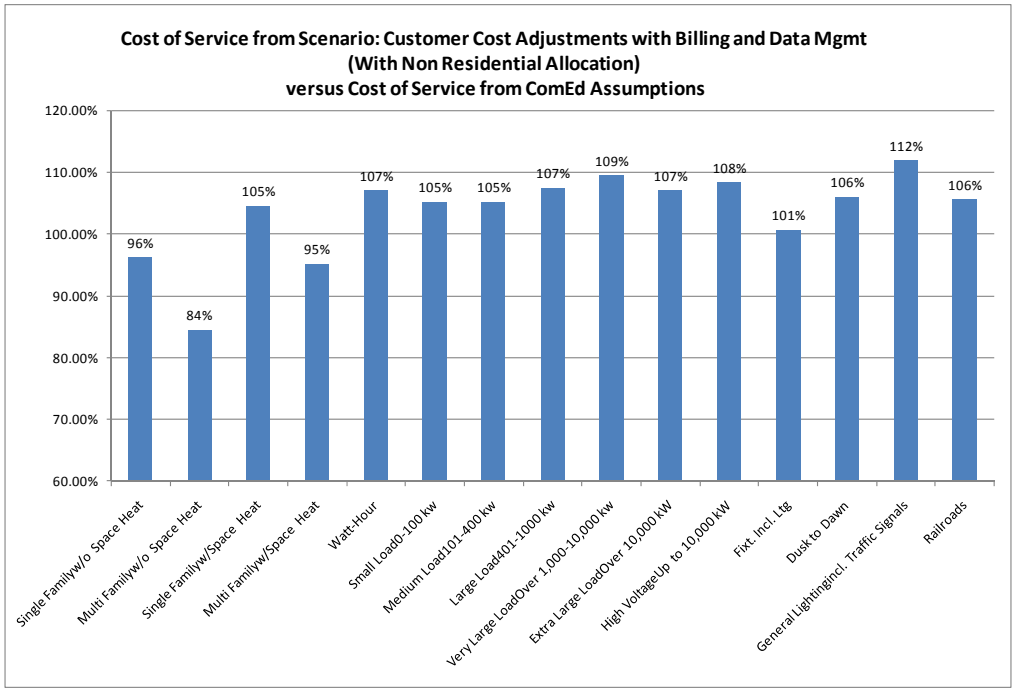

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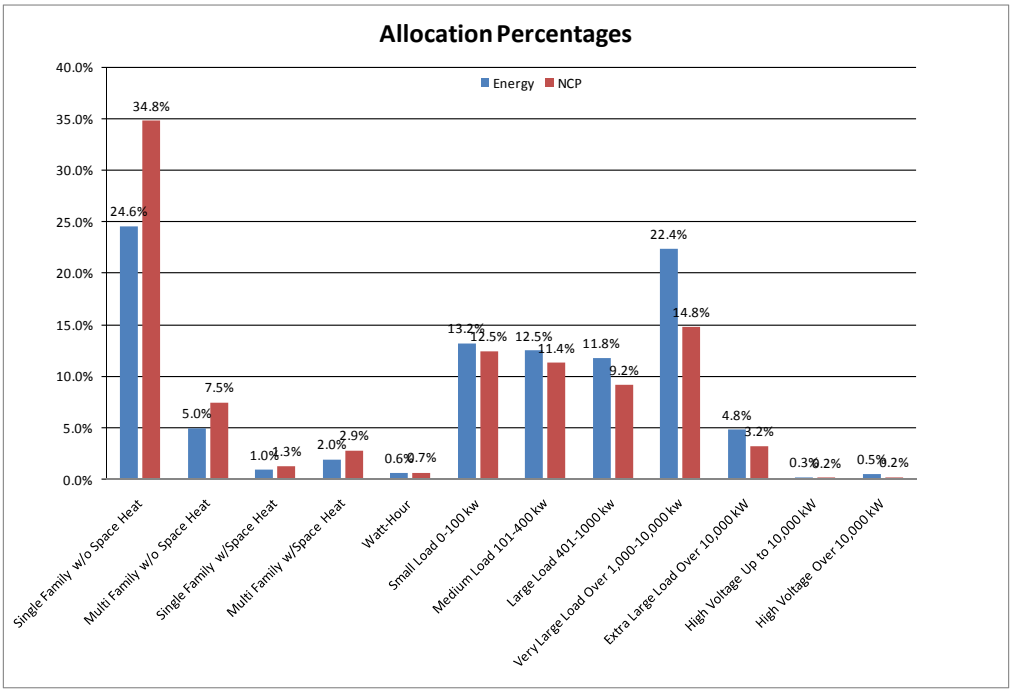
X. AVERAGE AND PEAK ALLOCATION OF DISTRIBUTION COST

Q. Please explain the allocation of distribution demand costs using average and peak allocation factors rather than a non-coincident peak or coincident peak allocator.

A. The typical argument between residential and non-residential ratepayers in distribution rate cases concerns whether the entire cost of the distribution system should be allocated based on electricity usage in only one hour of the year -- that is, the moment of coincident peak ("CP") or non-coincident peak ("NCP")-- or alternatively based in part on energy usage throughout the year. Advocates for residential ratepayers typically favor the average and peak ("A&P") allocation method, which uses an allocation factor that takes into account both energy usage and peak demand. By contrast, business interests generally endorse using an allocation factor based entirely on usage in a single peak hour of the year. The underlying reason for these associations is illustrated in the chart below, which shows the relative percentage of cost allocated to each customer class depending on whether peak demand or a combination of annual usage and peak is considered. The chart demonstrates that the class that benefits the most from average and peak allocation is the single-family residential class, whereas the class with the most to lose is the very large business class.



The reason this debate continues is that there is no ideal method of allocating distribution costs. The rationale for using the CP allocation method is that ComEd's distribution system would have precisely the same characteristics if the system operated only for one hour as it would if it operated continually throughout the year. Yet, it is absurd to assume that ComEd would design every substation, engage in the same tree-trimming practices, buy the same kind of trucks and structure its system in the same way if the system was designed to serve only loads occurring during a single hour of the year. For example, in purchasing almost any type of distribution equipment, there is a tradeoff between distribution losses and cost. By accepting higher line losses, the cost of distribution equipment can be reduced. If load really only occurred for one hour of the year and if ComEd made efficient decisions, ComEd would be able to pay less for equipment and absorb higher distribution losses.

ComEd's role in the allocation debate is entirely counterproductive. As with the utility's insistence that a hefty portion of distribution costs has nothing to do with customer size and should be treated as customer costs, ComEd's current and historic position with respect to allocating distribution costs is detrimental to residential interests and beneficial to business interests. With a straight face, ComEd claims in case after case that it would construct the distribution system in precisely the same way if it served load only during a single hour. Such claims defy reason.

Q. How did the Commission resolve arguments regarding allocation methods in the Ameren electric utilities' most recent rate case (Docket No. 06-0070, *et al.*)?

A. The Proposed Order in those dockets came to a reasonable and intelligent conclusion on the issue of average and peak allocation. Citizens Utility Board witness Chris Thomas testified that, "[i]n virtually every natural gas delivery service rate case in the past ten years, the Commission has used [the A&P] methodology for allocating distribution costs. Using an A&P methodology appropriately recognizes the reality that, although the system is sized to meet peak demands, customers use the system throughout the entire year." ICC Docket Nos. 06-0070/06-0071/06-0072 (cons.), CUB Exhibit 2.0 at 11, L. 244-48.

Based on Mr. Thomas's testimony, the Administrative Law Judges concluded as follows:

> The arguments on both sides of this issue are thought provoking. Traditionally, the Commission has used the NCP demand allocation method in electric cases, based at least in part on the premise that the distribution system is sized to serve maximum demand, whenever that may occur. At the same time, the Commission has recognized in natural gas proceedings that the distribution system serves customer demand every hour of the year and reflected this fact through the use of the A&P demand allocation method. Now, at a time of continuing transition in the electric industry, the Commission is asked to apply the A&P demand method to the electric industry.
>
> Ameren and IIEC seek the continued use of the NCP demand method. Differences in the ability to store the commodities and the period over which peak demand is measured (day versus hour) are among the arguments for the continued use of different demand allocators for the gas and electric industries. Although the Commission agrees that these differences exist, the record in this proceeding does not adequately explain how they justify the continued use of the NCP demand method for the electric industry to the exclusion of the A&P demand method. In the absence of a clearer record, the Commission is not persuaded that these differences alone justify the use of different allocators for these industries.
>
> The Commission is also not as concerned by CUB's faulty impact analysis of the A&P demand method as is Ameren. While knowing the approximate impact of a different allocation method can be valuable, it is not absolutely necessary. Generally, the Commission is aware that use of the A&P demand method will distribute more costs to nonresidential customers than does the NCP demand method.[11] What is puzzling to the Commission is why Ameren is so concerned about not knowing the impact of the

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> As suggested was possible in Docket No. 05-0597, a more thoroughly developed record has persuaded the Commission to adopt the A&P demand method in an electric delivery service rate case. Tradition without a record more supportive of the NCP demand method is not enough to justify the continued use of the NCP demand method. Although not a factor in this decision, the Commission notes that use of the A&P demand method will have the overall effect of decreasing costs to residential customers, who have no alternative supplier options, and increasing costs to nonresidential customers, who have alternative supplier options.

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1422 ICC Docket Nos. 06-0070/06-0071/06-0072 (cons.), Proposed Order at 162-63

1423 (Oct. 4, 2006). Although the Commission ultimately did not adopt this portion of

1424 the Proposed Order, it remains a well-reasoned and compelling analysis.

1425

1426 **Q. Was the A&P method adopted in the recent Peoples Gas rate case?**

1427 A. Yes. Despite protestations from the utility company, the A&P method was

1428 applied to natural gas distribution costs.

Q. What are the mechanics of applying the A&P allocation method?

A. To apply the A&P allocation factor, one computes a weighted average of the peak load and the average load (total energy divided by 8,760 hours per year). For example, if the peak load is 1,000 kW and energy usage was 8,760,000 kWh, average usage would be 1,000 (because the load factor is 1.0). In such a case, it would not matter how peak demand and average usage were allocated. On the other hand, if the energy load were 4,380,000, the average load would be 500. In this case, if the weighting factor was 50%, the average and peak would be 750. The weighting factor for the peak load is the overall load factor, and the weighting factor for the energy component is one minus the load factor.

Using the load factor to compute the allocation percentage, I have computed the effects of using A&P allocation factors together with the various other adjustments that I recommend. The tables presented in the introduction to my testimony (at pages 20-21, lines 345-69) illustrate the effects on residential and non-residential revenues of these alternative allocations.

XI. RESIDENTIAL RATE DESIGN

Q. Please discuss the general notion of rate design versus cost of service in a delivery services rate case.

A. Rate design is implicated by the question of whether rates should precisely match the estimated cost of service or whether there are reasons to deviate from the estimated cost of service. Deviations can occur on a class-by-class basis -- inter-

class rate design -- or they can occur within a class -- intra-class rate design. An example of inter-class rate design is limiting rate increases imposed on certain classes to avoid rate shock. An example of intra-class rate design is the split between the customer charge and the distribution facilities charge for the residential class.

Q. If the Commission rejects your recommendations with respect to customer costs, what should the customer charge be?

A. Even if my customer cost recommendations are rejected, the monthly customer charge should nonetheless be set at $3 per customer. Both low-use single-family and multi-family ratepayers in the City tend to have characteristics that lower ComEd's distribution costs, such as higher density, older plant and less undergrounding. Thus, the customer cost and customer charge for such ratepayers should be lower, appropriately moving costs from low- to higher-use ratepayers. For example, bungalows in the City have many of the same cost-minimizing characteristics as the multi-family class. In addition, it is not realistic to attempt to take account of these cost distinctions by adjusting the distribution facilities charge per kWh, for example, using an inverted block rate.

Q. Would adopting your recommendations have positive environmental consequences?

A. Yes. In addition to being cost-based, my proposed changes to ComEd's residential rate design would have positive environmental effects. Lowering the

customer charge allows ratepayers to realize the economic benefits of conservation and encourages smaller and more efficient housing types.

XII. CITY STREET LIGHTING RATE

Q. According to ComEd's cost-of-service study, what makes up the cost of serving City street lights?

A. The table below illustrates the components of cost of service that constitute the dusk to dawn street lighting class which is the cost class that City of Chicago street lights currently fall into.

	Dusk to Dawn Lighting	Percent of Total
High Voltage ESS	0	0%
High Voltage Dist. Substations	42,088	1%
High Voltage Dist. Lines	5,601	0%
Distribution Substations	533,818	8%
Distribution Lines	5,356,337	77%
Line Transformers	516,111	7%
Uncollectible Accounts (Distribution)	0	0%
Revenue-Related (Distribution)	-68,465	-1%
	0	0%
Services	251,097	4%
Customer Install. Other	50,192	1%
Fixt.-Incl. Ltg.	0	0%
Metering Services	48,906	1%
Billing -- Computation & Data Mang.	179,194	3%
Bill Issue & Processing	21,945	0%
Customer Information	31,839	0%
Uncollectible Accounts (Customer)	0	0%
Revenue-Related (Customer)	-5,161	0%
TOTAL COST OF SERVICE (Revenue-Related Di	6,963,502	100%

The above table should be reviewed while considering the fact that when you see a City street light hanging from a pole, the pole is owned by the City and not owned by ComEd. Further, the secondary wire that runs between the City street lights is also owned by the City and not by ComEd. I could go on about the

allocation of transformers and other items with respect to the City street lights, but the overall point is obvious -- ComEd's cost study does not remotely accurately represent the true cost ComEd incurs to serve customers. ComEd's cost study is riddled with assumptions that do not reflect reality. Unfortunately, the study cannot be corrected with a couple of minor modifications. As I discuss in more detail in the testimony I am submitting on behalf of REACT, for ratepayers with demands of above 10 MW the entire approach needs to be revamped. The cost study also needs to be retooled with respect to the City street lighting account, which in the past been classified as an above 10 MW per month ratepayer.

Q. What do you recommend the Commission do with respect to the City street lighting account?

A. I recommend that ComEd be required to conduct an audit to determine the actual costs of serving the City's street lighting account. Because it is unlikely that ComEd would be able to conduct such an audit in the time available to set rates in this case, I also recommend that the City's street light rate be set at a equal to the revenue per kWh for the above 10 MW class.

* * *

Q. Does this conclude your testimony for the City of Chicago?

A. Yes, it does.